

**THE RAILWAY GAZETTE**

A Journal of Management, Engineering and Operation  
INCORPORATING

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## GOODS FOR EXPORT

The fact that goods made of raw materials in short supply owing to war conditions are advertised in this paper should not be taken as indicating that they are available for export

## NOTICE TO SUBSCRIBERS

Consequent on the paper rationing, new subscribers cannot be accepted until further notice. Any applications will be put on a waiting list and will be dealt with in rotation in replacement of subscribers who do not renew their subscriptions

## POSTING "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE possesses the necessary permit and facilities for such dispatch.

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas

## TO CALLERS AND TELEPHONERS

Until further notice our office hours are:

Mondays to Fridays 9.30 a.m. till 5.30 p.m.

The office is closed on Saturdays

## ANSWERS TO ENQUIRIES

By reason of staff shortage due to enlistment, we regret that it is no longer possible for us to answer enquiries involving research, or to supply dates when articles appeared in back numbers, either by telephone or by letter

## ERRORS, PAPER, AND PRINTING

Owing to shortage of staff and altered printing arrangements due to the war, and less time available for proof reading, we ask our readers' indulgence for typographical and other errors they may observe from time to time, also for poorer paper and printing compared with pre-war standards

## The Impending Budget

IN more normal times the budget speech which will shortly be made by the Chancellor of the Exchequer would have been awaited with the liveliest interest, for with estimated expenditure below and estimated receipts above expectations last April, optimistic expectations might have been engendered. In wartime, however, although the successful financing of so considerable a proportion of war expenditure by revenue affords a satisfaction which is perhaps a little grim to the taxpayer, he cannot hope for any easing of his burdens. On the contrary, he entertains forebodings lest the few pleasures remaining to him may again attract the attention of the Chancellor, with the object as much of curtailing consumption as of increasing revenue. If, on this occasion, it is found possible to give some indication of the Government's intention as to the future operation of Excess Profits Tax, one of the major matters of concern to all industry may be lightened a little. There can be no doubt that dubiety on this point is a potent factor in future uncertainties among industrialists, and one which makes them a little hesitant in formulating post-war plans in as much detail as they would wish.

## Co-operation in Locomotive Building

As was briefly recorded in our last week's issue, Vulcan Foundry Limited, jointly with the North British Locomotive Co. Ltd., has acquired an interest in Robert Stephenson & Hawthorns Limited, by purchasing the shares held by R. & W. Hawthorn Leslie & Co. Ltd. It will be recalled that in our January 7 issue it was stated that Mr. F. S. Whalley, M.C., Vice-Chairman and Managing Director of Vulcan Foundry, and a director of the North British Locomotive Company, had joined the board of Robert Stephenson & Hawthorns (Mr. Whalley subsequently became Chairman of Robert Stephenson & Hawthorns), and Mr. W. Douglas Lorimer, a Director of the North British Locomotive Company, and Major-General A. E. Davidson, C.B., D.S.O., a Director of Vulcan Foundry, had also joined the board of Robert Stephenson & Hawthorns. The arrangements which have been concluded between the three locomotive building companies are in pursuance of the policy of consultation already adopted between them, and will ensure that the principle of co-operative work will be continued and developed.

## The Statistical Blackout

From time to time in these columns we have commented on the disparity between practice in the United States and in this country in relation to the issue of statistics relating to transport, and have urged the need to lighten the statistical blackout in this country. A similar plea was made by Lord Barnby in the House of Lords recently, but Lord Templemore, on behalf of the Government, was adamant in his refusal to change present practice. He declared that the embargo was based on security reasons, and pointed out that in particular cases application could be made for a special release of statistics, and that each application was carefully considered on its merits. He thought the need for the business community to have statistics had declined, because many decisions formerly based on statistics were now taken by the Government, and generally had quite different grounds. The Government was the main customer of many industries, and had to do the planning for them, and for others it had to decide how much was to be produced. He admitted that many of the figures now issued had no direct connection one with another, but said that a series of complete figures issued regularly would be just what the Government considered most valuable to those very intelligent students of statistics—the enemy's General Staff.

## Argentina's Foreign Trade

Recently-issued statistics relating to 1943 show that the prosperity of Argentina is in no wise diminished, and that Great Britain remains her best customer. During last year Argentina exported to this country 702,636,000 pesos worth of goods, and imported from Great Britain 194,486,000 pesos; that is to say the peso balance in Argentina's favour was 508,150,000 pesos. To the United States, the Argentine sold 498,841,000 pesos worth of goods, and imported from that country 179,269,000 pesos worth, which resulted in a peso balance of 319,572,000. Great Britain absorbed 32.2 per cent. of Argentina's export, compared with the United States 22.8 per cent.; the imports into the Argentine from Great Britain and the United States were much closer—20.6 per cent. from the former and 19 per cent. from the latter. During the war Argentina has been forced to forego many imports, and the development of local industries may make permanent some readjustments. Neverthe-

less, Argentina's need to maintain her exports of primary products will necessitate imports on a large scale. The Argentine Central Bank suggests that principal imports in the future will be "railway and city transport materials, motorcars, commercial aviation equipment, industrial, agricultural machinery and equipment, and other materials essential for the development and security of the country." The post-war demand for Argentina's production in meat and cereals will be heavy, and her post-war trading outlook is bright. It is reasonable to assume that as Great Britain remains the principal buyer of Argentine products, reciprocity should ensure a good market for United Kingdom products.

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#### Nature Provides a Railway Tunnel

Some 45 miles west of Bristol, on the Bristol-Appalachia section of the Southern Railway System of the United States, there is located at Glenita one of the most remarkable railway tunnels in existence, provided by Nature. When the line was being surveyed in 1880, the survey party, proceeding along the course of Stock Creek, reached a natural amphitheatre with a rock wall 200 ft. high, in the face of which there was an arched tunnel entrance, 90 ft. high and 120 ft. wide, into which the stream passed. Formed by erosion when the waters to the east of the Purchase Ridge were seeking a way through the mountain wall into the Clinch basin, this natural tunnel was found to enlarge to an average size of 100 ft. by 130 ft., and to be 788 ft. long. After clearance of brushwood and other debris from the tunnel, the surveyors found that the base was sufficiently wide to accommodate both the stream and the railway, and, apart from the preparation of the railway formation, no other work was needed than the blasting away for about 16 ft. of a column of limestone in the centre of the tunnel. At the eastern end, after building a bridge across Stock Creek, it was necessary to bore a short tunnel, 145 ft., through the opposite wall of the amphitheatre, which has a perimeter of about 3,000 ft. There have been previous cases, and of these the Box Tunnel on the G.W.R. provides a notable example, in which railway tunnels have made use, for a part of their length, of natural caverns, but the American tunnel described is probably the only example in the world of a natural wonder of this description providing a ready-made path for a railway.

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#### Swiss Postal Road Motor Services

There was an unfavourable reaction in Swiss economic circles when an Order was issued recently by the General Management of the Postal Services that postal road motor services were to be discontinued throughout the country on Sundays as from February 1, to conserve the use of tyres. The Governments of certain Cantons protested that some regions would be wholly isolated on Sundays, and there was the impression throughout the country that the object in view could be achieved by less drastic means. An Order issued on January 11 required a reduction of 20 per cent. in the postal road motor services, but a subsequent Order, on January 19, provided for the suspension on Sundays. As a result of representations, the Swiss Federal Council intervened, and the second Order was suspended; but a more recent investigation showed the position to be serious, and Sunday services finally were discontinued from March 19. In the meantime, the speed of the road motor services had been reduced to 30 km. (18.6 miles) an hour. There are three categories of postal road motor services in Switzerland, namely, those operated by the postal administration with its own vehicles; those operated by private owners with their own vehicles as contractors for the postal administration; and those operated by private owners on their own account, but with special agreements with the postal administration as to the conveyance of mail. All three categories are affected.

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#### Co-operation without Single Ownership

At a period when some schools of thought contend that any form of public service can best be provided by a State monopoly, it is interesting to notice a wartime example of effective co-operation between Statutory suppliers of a public service that are financially independent. In the course of a paper to the Royal Society of Arts, entitled "London's Water Supply," Mr. Henry Berry, Chairman of the Metropolitan Water Board, recently pointed out that, although the board supplies a wide area extending from Ware in the north to the borders of Sevenoaks in the south, and from Southfleet in the east, to Sunbury in the west, it is a most irregular area for which there is no logical reason other than that it was the area supplied by the eight former water companies which the M.W.B. took over under the Act of 1902. In this area there is an enclave—Richmond—which receives most of its water in bulk from the board, but is its

own distributor. Other authorities supplying the Greater London Area are the South West Suburban Water Company, the Rickmansworth & Uxbridge Valley Water Company, the Uxbridge U.D.C., the Colne Valley Water Company, the Barnet District Gas & Water Company, the South Essex Waterworks Company, the Croydon Corporation, the East Surrey Water Company, the Sutton District Water Company, the Epsom & Ewell Corporation, and the West Surrey Water Company. For war purposes all these water authorities in the London Civil Defence Region are working together under a committee known as the War Emergency Water Committee of the London Civil Defence Region, which deals with all matters of common interest, and has arranged intercommunication of a higher order than ever previously, enabling water to be diverted from one authority to another, and provides for combined action with emergency plant anywhere in the region.

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#### A Railway under the Tyne

Since the reference in our December 3 issue to the early mineral railway running under the River Tyne in the neighbourhood of Jarrow, some further information on the subject has been published in the *L.N.E.R. Magazine* as a result of the researches of Mr. H. F. Sanderson, District Goods Manager, Newcastle-on-Tyne, L.N.E.R. In this he records that in 1802 the Newcastle Corporation, which owned certain royalties in and around Newcastle, let the High Main coal under its Half Way House Farm at Willington Quay to Simon Temple, of Jarrow Colliery. The coal in this seam was worked under Willington Quay, but conveyed underground beneath the river and brought to bank at Jarrow Colliery. Precisely when this railway ceased to be used has not, so far, been ascertained, but Mr. Sanderson remarks that it is possible that the working was discontinued round about 1856, when practically all the collieries near the river became flooded. On January 1, 1881, a Hebburn company obtained a lease from the Newcastle Corporation to work the Low Main seam at Willington and Walsend, and these coals were also conveyed underneath the river by railway and brought to bank at Hebburn. It is suggested by the author that the Willington-Jarrow Railway was in service from about 1802 to 1856, but that the Walsend-Hebburn Railway was in use only from 1881 to 1884.

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#### Reciprocal Wagon User in Argentina

Although the bulk of the traffic on each of the four Argentine railways constituting the important British-owned broad-gauge group is local between the zones of production and the nearest port, there is a fair amount of traffic between inland towns, and the wagon exchange among these railways amounts to 1,360 vehicles daily, through 28 junctions. An independent Railway Clearing House records interchange of traffic and rolling stock, and clears accounts, and this organisation framed regulations for the use of wagons on lines other than those of the owner. These regulations necessarily hamper free use, and in 1937 a system of common user was introduced, covering some 39,000 of the 49,000 wagons of the four systems. The difficulties which led to the abandonment of this in 1940 are outlined in a paper of which we publish a summary at page 414. Common user was replaced by a system known as "reciprocal user," the main features of which the author outlines. This possesses only some of the advantages of common user, and, in the author's view, had standard types of rolling stock existed, the difficulties experienced with common user by the Mechanical Departments could have been overcome; if all general-purpose covered wagons had been so constructed as to be capable of carrying bulk grain, it is doubtful whether from the traffic viewpoint there would have been any difficulty.

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#### Special Single-Line Working for Factory

All the main-line railways have had to carry out a considerable amount of signalling in connection with the numerous alterations to tracks and sidings and the laying down of new loop lines, junctions, spur connections, and alternative routes, required by the needs of war transport. Some of this signalling has been described in our columns and on page 416 appears a description of some interesting work carried out by the Signal & Telegraph Department of the Southern Area, L.N.E.R., in connection with new approach lines to a war factory, leading to a special passenger station in the factory itself and a marshalling yard nearby. The general features of the installation, which includes power points and signals, track circuit on all running lines, and the usual route locking and controls, have been long seen on the L.N.E.R.; but the three approach lines are worked as single lines by a new arrangement of electrical interlocking controls without token apparatus. The L.N.E.R. has already dispensed with this apparatus on other sections and employed

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"acceptance levers" and track locking, but in this case these levers could not be conveniently provided and push button cabinets, with lamp indicators and circuit interlocking were used, so carrying out the same principles in another way. This equipment has operated very satisfactorily and it will no doubt be used in other installations.

### L.M.S.R. Locomotive Casualty Report System

On another page is the first of three articles on the L.M.S.R. locomotive casualty report system, the main object of which is to provide information as to the cause of each locomotive casualty with a view to preventing a recurrence. The term casualty is used in a wide sense and covers both mechanical failures and loss of time resulting from non-mechanical failures such as mismanagement, overloading, shortage of coal or water, supply of inferior coal, etc. Casualties are divided into five categories, the first of which covers mechanical defects involving loss of time; these are the subject in the first instance of a casualty report which is made out at the shed where the driver signs off. This casualty report is submitted to the Divisional Superintendent of Operation, with copies to other sheds concerned. Category I casualties are also reported on a weekly statement of engine casualties which is submitted by each district to the divisional superintendent of operation. Casualties of other categories, including inferior coal, are also reported on the weekly statement. The Divisional Superintendents compile a four-weekly summary and analysis of casualties and these are submitted to the Superintendent of Motive Power. A complete record is thus obtained of mechanical and non-mechanical failures which must be of the greatest value, both to the locomotive design staff in eliminating any weak mechanical features, and to the operating department in ensuring that locomotives are used at a maximum degree of efficiency. The system described in the articles referred to has been developed by careful research.

### North American Locomotive Production

The last fifteen years have witnessed remarkable fluctuations in the production of locomotives in North America. Before the depression, 1929 was the last year of ordering on any extensive scale, when orders were placed with United States builders for home railways for 1,230 locomotives, and for export, for 106; and with Canadian builders for 77. The orders placed with North American builders in 1932 amounted to fourteen. The first year of recovery in ordering was 1936; and from 1937 to 1940 inclusive the average United States production was 431, and the average Canadian 38, locomotives a year. In 1941 to 1943, 1,047, 936, and 1,012 locomotives respectively have been built in the United States for home use, and 57, 11, and 58 for export; Canadian builders have turned out 3, 71, and 94, respectively. Diesel progress was arrested by the fact that the War Production Board forbade further construction of passenger diesel locomotives during the war; and, whereas home orders in 1941 were for 293 steam, and 937 diesel, locomotives, by 1943 the ratio had changed to 442 and 612 respectively, the latter representing chiefly shunters. The foregoing production is, of course, additional to the hundreds of locomotives built for war service overseas. Some details of locomotive building in the U.S.A. during 1943 were given on page 385 of our last week's issue.

### "Junction X"

Quotations in the press of remarks by so-called "railway officials" of undisclosed status and authority must make the public wonder sometimes what manner of men really are responsible for operating the railway system. There is a gap in the picture usually presented in the daily papers between the uniform staff and a rogues gallery of rapacious stockholders and reputedly senile directors. A recent B.B.C. broadcast devoted to the work of railways in wartime helped to fill the gap with impressions of the transport problems confronted and solved by the little-known company of railway officers, beginning with a telephone conference between divisional superintendents on a morning when the unexpected diversion of an incoming convoy to a different port threatens to make hay of their schemes to keep the traffic moving. How the decisions of the conference affected and disrupted the day's work of vast numbers of men, to say nothing of causing unavoidable inconvenience to the ordinary traveller, was told in dialogue that gained in effect and conviction by avoiding the melodramatic. A narrator accompanied an ordinary listener from scene to scene, and the latter, although truculent at first over the chronic lateness of trains, soon became chastened and admiring. The final episode concerned the evacuation from Dunkirk, with the Southern Railway mentioned by name as receiving and distributing the full tide of the withdrawal, although elsewhere in the broadcast railway companies were anonymous.

### Canadian Pacific Railway Company

FINANCIAL results of operations in the year 1943 showed a moderate improvement over 1942 which, however, was not in proportion to the increase in traffic handled. As a result of governmental regulations rates, both passenger and freight, were maintained at the 1941 level. On the other hand, operating costs, both in labour and material, and taxes advanced substantially. The volume of traffic surpassed what might have been thought possible a year ago. Freight, passenger, mail, and express traffic all reached levels never before attained. Gross earnings were \$40,243,700, or 15.7 per cent., greater than in 1942. Freight earnings increased by \$22,045,259, or 11.3 per cent., due principally to further expansion of the industrial output of the Dominion, to the enlarged export trade brought about by improved shipping conditions, and to the development of heavy grain movements both to Atlantic Coast ports for export and to points in Eastern Canada and the United States to provide winter feed for livestock. Earnings from grain and grain products increased \$12,000,000, or 37 per cent. Ton-miles for the year totalled 24,950 million, compared with 22,600 million in 1942 and 18,423 million in 1928. Due to greater dispatch in the handling of wagons the large increase over 1928 was accomplished with 5 million less wagon days. Average ton-mile revenue was 0.87 cents. Passenger earnings increased by \$11,830,792, or 30.1 per cent.

Working expenses advanced by \$39,219,822, or 18.8 per cent. Exclusive of taxes, the increase in expenses was \$32,592,157, and the operating ratio was 72.82 per cent. compared with 71.54 per cent. in 1942. The wartime cost-of-living bonus to employees amounted to approximately \$14,000,000, an increase of \$2,000,000. Higher prices for locomotive fuel added about \$3,000,000 to the year's expenses and many other material costs increased. Maintenance of way and structures expenses advanced by \$8,840,465. During the year 1,736,337 treated and 1,252,608 untreated sleepers were placed in track, 539 single track miles of new rail were laid, and 72 miles were rock-ballasted. Examination of rails for hidden defects by the Sperry detector-car covered 8,890 miles of track. Locomotive repairs involved an expenditure of \$12,608,896 and included the shopping of 703 engines for heavy repairs. To meet the heavy demands of travel 19 buffet parlour cars and eight compartment observation cars were converted to first class coaches. Depreciation charges for rolling stock amounted to \$13,953,484. At the end of the year 92.4 per cent. of locomotives and 97.6 per cent. of freight cars were in serviceable condition. Transport expenses increased by \$12,733,268, but the ratio to gross earnings was 32.18 per cent. compared with 32.27 per cent. in 1942 and for the fourth successive year constituted a new record. There were slight variations in operating factors as the freight train load increased from 1,711 tons in 1942 to 1,729 tons in 1943 and the freight car load from 31.9 tons to 33.7 tons. On the other hand, the freight train speed fell from 16.7 miles an hour to 15.9 and the freight train fuel consumption increased from 101 to 106 pounds per 1,000 gross ton-miles. Ton-miles and passenger miles increased 10 per cent. and 25 per cent. respectively, but with an increase of only 5 per cent. in train-miles. General financial results are shown in the accompanying table:—

	1942	1943
Freight earnings ... ..	\$195,897,780	\$217,943,039
Passenger earnings ... ..	39,337,893	51,168,685
Gross earnings ... ..	256,864,091	297,107,791
Working expenses (including taxes) ... ..	208,676,402	247,896,224
Net earnings ... ..	48,187,689	49,211,567
Other income ... ..	15,861,034	16,270,751
Total income ... ..	64,048,723	65,482,318
Fixed charges ... ..	22,955,703	21,795,836
"Soo" bonds interest ... ..	738,953	703,764
Net income ... ..	40,354,267	42,982,718
Preference dividend ... ..	5,042,782	5,042,782
Balance to profit and loss ... ..	35,311,485	37,939,936

"Other income" increased by \$409,717, or 2.6 per cent. Continued development of important war projects in North-Western Canada brought increased earnings to the North Alberta Railways, to the benefit of the Canadian Pacific. A transfer from profit and loss is made of \$20,000,000 to rolling stock reserve in anticipation of charges which will arise when it becomes possible to replace certain types of rolling stock by units incorporating the latest technological improvements. Net charges to profit and loss during the year amounted to \$7,956,201, leaving a profit and loss balance at December 31, 1943, of \$231,234,218. The ordinary dividend of 2 per cent., declared from the earnings of 1943 and paid on March 31, 1944, is not deducted from this balance. Parlour-car service has been suspended between the cities of Ottawa, Montreal, and Toronto, and restrictions have been placed on the number of sleeping cars, of extra passenger trains,

and of extra sections of regular passenger trains. New locomotive stock placed in service during the year included five 4-6-2 type, twenty 2-8-2 type, and five diesel shunters. Installation of the automatic block signal system between Chapleau and Schreiber, designed to expedite traffic on the Algoma District, was nearing completion by the end of the year.

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### The Future Trends of Railway Traffic

IN its report on Rail & Road Transport the Select Committee on National Expenditure referred to "the immense contribution to the national effort which the railways have made in increasing measure since the outbreak of war." The committee went on to say that "much information concerning the activities of the railway organisations has been published from time to time in the Press, in speeches, and in pamphlets." In one sense this is correct. . . . Public Relations Officers, Press Agents and Advertising Managers have been busy telling the public how the war has changed the work of the railways and made new calls on their resources. They have explained why train services have been curtailed and a good many facilities withdrawn, besides appealing to people to help in various ways—above all by not using trains. They have also issued many paragraphs about the employment of female staff, the repair of war damage and similar matters. By far the best piece of writing of a general kind is the brochure "British Railways in Peace and War," published on behalf of the main-line companies and L.P.T.B. This brochure is now on sale and deserves a wide circulation, but again it is intended for the populace and contains only a few figures which are skilfully used to bring home particular points to the reader.

What the serious student of transport in this country misses is a yearbook of railway information such as the American railways prepare. In this booklet of handy size five pages of comment serve to introduce a set of statistical tables, with diagrams, giving railway results over a period of 20 years or so under every conceivable head—capital and finance, revenue and charges, rolling stock, materials and supplies, staff and operating efficiency. The facts are there in full for anyone to use in making his own estimate of the future trends of railway traffic. In considering possibilities for our own systems, we have little to go on save some fragmentary general statistics and a few details for individual companies culled from such sources as the Chairmen's speeches at the annual meetings of stockholders.

Looking first at the war period, it seems safe to conclude that our railways recently have been working at full stretch, having regard to their existing equipment and manpower, but could carry more traffic if adequate materials and labour were released to them. In any event the present pressure on the lines will continue until the European war ends. On the assumption that Germany is beaten by the close of 1944 and that Japan continues to fight for twelve months longer, it will be interesting to enumerate some of the factors which would have a decided influence on railway operations. Three phases will have to be considered:—

(a) The year 1945 when Japan is presumed to be the solitary opponent; (b) a period of recovery lasting two or three years—say from 1946 to 1949, and (c) the distant future of 1950 and beyond.

#### (a) THE YEAR 1945

As soon as a European armistice is declared, one set of tendencies will begin to lighten the burden on the railways. These may be placed under four heads.

(i) Though Government control will persist, the companies should be less subject to interference from Whitehall;

(ii) The supply of materials, especially steel and timber, should improve;

(iii) An appreciable number of railwaymen would be demobilised and their return would help the movement of traffic and improve the maintenance of permanent way and rolling stock; and

(iv) The removal of the blackout and A.R.P. would make outdoor work easier and put new heart into the staff.

Another set of tendencies will prevent any rapid decline in the amount of work which the railways have to do.

(i) The public will expect passenger train services to be restored on a pre-war scale as soon as manpower and rolling stock can be provided;

(ii) Government traffic will begin to decline, but the tonnage of freight needed for the peacetime work of reconstruction may largely offset this decrease; and

(iii) Large quantities of foodstuffs and materials will be required by the stricken countries of Europe and, though America

will probably provide the bulk of these commodities, a certain tonnage will originate in Great Britain and our ports may become distributing depots for produce from North and South America.

The railways may thus be busier than ever in 1945, particularly if road transport cannot be recreated in its old volume because of shortages of vehicles, rubber, and motor fuel. Whatever the situation may be, it is to be hoped that the railways will meet it in the spirit of free commercial undertakings, pressing for any extra facilities they require. The time will have passed when business can be restricted or turned away with impunity.

#### (b) THE PERIOD OF RECOVERY

The same policy should be pursued with redoubled vigour in 1946, when we assume that Japan will have been vanquished and that all the world will have entered on the transition from war to peace conditions. Complete demobilisation may take three or four years and the disbanding of our armies will employ many ships and many railway trains. In all probability large numbers of troops will be stationed in European countries, in North Africa and in the Middle and Far East for long periods after the main hostilities cease. The upkeep of these small armies will give some employment at home, but the total amount of war work will decline rapidly with resultant loss of traffic to railways, docks, and shipping. How far war industries can be converted into profitable peacetime concerns is entirely problematical. Our experience after the last war does not encourage optimistic views about a quick changeover, and there is little substance behind the programmes drawn up by planners like the Welsh Reconstruction Advisory Council, which prepares an imposing list of things it would like to see happen and leaves to the Government, or some other kind of Providence, the task of converting its wishes into realities. None of the schemes so far propounded for locating new industries holds any sure promise of increasing the gross tonnage of goods put on rail—indeed, some of these schemes are linked with proposals for constructing new roads or bridges which would simply take business from the railways.

What of our older industries? Presumably no government will allow the revival of agriculture to languish, but will rather seek to add to the productivity of the land. Bountiful harvests fill the railway companies' sacks and grain warehouses and yield paying loads for wagons. Products of mines give even bigger wagon loads and often full train loads into the bargain, but the prospects are that the output of our coal mining industry will diminish. It is improbable that our coal exports will ever reach their old volume again. A prophecy made by one leading industrialist that they will fall away by 50 per cent. may be pessimistic, but there will not be a repetition of 1923 when, due to the occupation of the Ruhr, some of our ports were congested with shipment coal. The drop in dock dues will in itself be a serious loss for the railway companies who spent large sums before the war on modernising many coal shipping appliances. They do not stand much chance of being compensated by an increase in the tonnage of landsale coal and its high price may handicap our heavy industries as time goes on. Judging from experience after the last war, the iron and steel trades should be well employed on home orders for a year or two, but, as soon as domestic requirements slacken, high working costs will tell against the development of export business. For the same reason our shipbuilders and marine engineers may have a busy spell until 1948, followed by a lean term of indefinite length, unless their costs of production can be reduced.

We conclude that during the intermediate period of recovery the railways will have three or four fairly good years, with some loss in mineral tonnage compared with a pre-war year like 1937 and the risk of a weakening in goods carryings towards the end of the term.

#### (c) THE FUTURE, 1950 AND BEYOND

After the first world war four years were occupied in deciding the future of the railways and in settling the details of grouping. Going by that precedent, the Government should be able by the year 1950 to put in force its plans for reorganising transport. We cannot guess the terms of the new Act of Parliament, but we will suppose that reasonable treatment is meted out to all parties with the aim of giving the public efficient and dependable services by rail, road and water, while putting an end to destructive competition between the carriers. In the event of this happy consummation being reached, the railways should retain their hold on passenger traffic provided that they run fast and punctual trains at convenient times. They will no doubt reinstate some of the special features, such as high-speed trains, which helped to popularise rail travel in the years before the war, but they should also try innovations freely, even if many of their experiments fail. There is a lot in keeping the people talking about what the railways are doing.

Some railway officers are not so confident about the future of goods and mineral traffic. Much will depend on the state of world trade and on the level which our imports and exports attain in the new order of things. The one certainty is that

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the railways will have to fight hard for their share of the tonnage offering for conveyance and will have to show uncommon enterprise both in securing traffic and in working it speedily and economically. There should be many opportunities for adopting suggestions made by the various planning and development committees which for the past year or two have been examining every phase of railway operations and are sure to produce instructive reports.

Amongst the schemes of reconstruction which are being examined there may be proposals for installing electric traction on a large scale. This is a subject of first importance. Many things have happened since Lord Weir's committee reported on main-line electrification in 1931 and stated its belief that there would be a fair return on the cost of converting busy sections of line on an extensive scale. Every change in circumstances has strengthened the case for examining a number of areas with a high traffic density and selecting the most suitable districts for a large-scale experiment. The first cost of a modern steam locomotive is high and its running costs are heavy in these days of dear coal and high enginemen's wages. Electric operation has definitely established its superiority for suburban passenger services and its trial on an extensive scale in main-line movement of both passenger and freight trains is perhaps overdue. If the electric locomotive produces half the benefit in main-line working that the electric motor has achieved in suburban services, it may prove a decisive factor in enabling the railways to keep an upward trend to their traffics in the years from 1950 onwards.

### Merchandise and Mineral Rates

BEFORE January, 1928, the classification of goods and the rates for their conveyance by merchandise trains were governed by the Railway (Rates & Charges) Order Confirmation Acts of 1891/2 applicable to the different railway companies. Each Order contained a classification and a schedule of maximum rates and charges. The classifications, which were identical, divided goods into eight classes, and a maximum rate per ton per mile was prescribed for the conveyance of all articles in a class. Within these maxima the companies were free to vary their rates subject to certain statutory safeguards for traders. As the result, a very large proportion of traffic was carried at rates below the maxima, and these were termed "exceptional rates." In 1920, before the railways were released from Government control, the Minister of Transport increased the rates and charges to the level of about 100 per cent. over the 1913 rates, plus flat rates varying from 6d. to 1s. 3d. a ton, but subject to certain maximum additions.

When the companies resumed possession of the railways in August, 1921, the rates were steadily decreased until at August, 1923, they stood generally at 50 per cent. over the 1913 level, and the flat rate and maximum additions had also been reduced. In the meantime the Railways Act, 1921, had been passed introducing a completely new principle into railway charging practice, namely, the fixing of rates, fares, and charges at such a level as would, with efficient and economical working and management, together with other sources of revenue, yield as far as practicable to the railways specified annual net revenues, termed "Standard Revenues." The introduction of the new system of charging involved the preparation of a completely new classification. This was completed by the Rates Advisory Committee in June, 1923. The new classification was compiled on the theory that modern trade and industry required the most careful adjustment of railway charges, and the former eight classes of the old classification were expanded to 21 classes exclusive of coal, coke, and patent fuel.

Then the Railway Rates Tribunal had to undertake the duty of fixing standard charges for each of the classes for each group company, a task which occupied a considerable length of time. Ultimately they were fixed, broadly, at about 60 per cent. in excess of the class rates existing in 1913, and became operative on the "appointed day," January 1, 1928. It was also hoped that the new standard charges would result in the cancellation of the bulk of the exceptional rates, but the unforeseen and extremely rapid growth of road motor competition nullified this expectation, and between 1928 and 1938 something like 1,500,000 new exceptional rates were placed on the books for the purpose of retaining and regaining traffic. In 1933 the Road & Rail Traffic Act authorised the railway companies to introduce a new system of "agreed charges," i.e., a flat rate per ton, package, or animal, irrespective of the distance conveyed, and considerable use has since been made of this principle by the companies.

The failure of the new system of standard charges to yield the Standard Revenue led to the Railway Rates Tribunal in October,

1937, acceding to an application by the railway companies for a general increase of 5 per cent. in their standard and exceptional charges. No further alteration was made in the general level of rates until they were increased by 10 per cent. on May 1, 1940, in accordance with the provisions of the original financial arrangements between the Minister of Transport and the railways. On December 1, 1940, the 10 per cent. increase was raised to 16½ per cent. over the rates and charges in force immediately before the outbreak of war. No further alteration has since been made, notwithstanding the very heavy increases in railway costs.

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### The Deutsche Reichsbahn in 1943

IT is noteworthy that, whereas in the earlier stages of the war, the German State Railway continued to publish detailed annual figures, it has now come into line with our own country in giving only general traffic indications. The details of earlier years were not particularly illuminating, as they were not directly comparable with pre-war figures, by reason of the increasing mileages coming under Reichsbahn management and also of the different states of organisation and maintenance of the "acquired" lines, but they enabled a far greater amount of information to be deduced than is now the case. Figures recently released in Germany relating to financial results of the Reichsbahn in 1943 are extremely sparse. The main feature is the substantial increase in working receipts, totalling RM. 11,800,000,000, or 20.4 per cent. more than the total for 1942, which amounted to RM. 9,800,000,000. It is pointed out that the ratio of increase has nearly trebled compared with that for 1941 to 1942 which amounted to 7.8 per cent. (or RM. 700,000,000). The increase is stated to be all the more striking as fares and rates have been unchanged throughout the year and it is, therefore, only the intensification of the traffic which accounts for the improved working receipts.

According to a neutral correspondent who has seen the report, it is further officially declared that, despite difficulties resulting from the air war, and in particular the large-scale evacuation by rail of extensive danger areas, and despite the additional tasks imposed on the railways as a result of intensified war production, the Reichsbahn has always been in a position to cope successfully with the situation. A large part of this success is said to be due to the skill of the railway management in arranging traffic in such a way as to even out traffic "peaks" and "valleys" (*Verkehrstaler*). Particularly was this the case with the autumn peak, as a substantial part of the usual autumn traffic was dealt with last year during the preceding summer months. No indications of expenditure are available, but it is stated that maintenance costs of track, locomotives, rolling stock, and plant, soared to a considerable extent in 1943, and depreciation rose substantially. After providing for greater depreciation and the usual contribution of RM. 120,000,000 to the Reich Treasury, there was an unspecified surplus said to be sufficient to cover all liabilities in connection with the 1943 profit and loss account, interest service, and allocation to reserves, and the allocation of a further amount (also unspecified) to the Reich Treasury, stated to be substantially higher than a similar allocation made in 1942. The transport tax paid into the Reich Treasury in 1943 is also said to have exceeded the amount so paid for 1942; in this connection it may be recalled that in 1941—the last year for which more comprehensive figures were made available—the Reichsbahn paid a total of RM. 806,000,000 into the Reich Treasury.

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### Concrete Railway Sleepers

THE reduction in the number of new wooden sleepers available for railway maintenance in wartime has resulted in the use of reinforced-concrete sleepers in many situations where the normal practice would be to lay serviceable sleepers recovered from main lines. Hitherto, British railways have had very little practical experience of concrete sleepers apart from what can only be described as experimental work undertaken during the closing stages of the 1914-18 war. In 1940-41 the multitude of concrete-sleeper designs, patented and otherwise, submitted to the railways by manufacturers of ferro-concrete articles indicated the urgent need of some form of guidance to designers, the majority of whom had had little opportunity to become acquainted with the necessary design data required to be con-

sidered if the sleeper was to be accepted for practical trial in the track and the publication of War Emergency British Standard 986 in 1941, undoubtedly went far towards eliminating obviously unsuitable designs.

Since then, however, the knowledge gained from practical tests and from experiments carried out in connection with concrete sleepers laid under main-line conditions has provided data sufficient to justify a complete revision of the 1941 British Standard. The revised British Standard 986—1944 recently published\* is limited to consideration of transverse or block sleepers for standard-gauge track over which speeds higher than 30 m.p.h. are not attained and provides for separate designs as follows: Class A, for lightly worked and storage sidings; Class B, for heavily worked and refuge sidings, goods loops, etc. Sleepers in both classes may be designed for flat-bottom rails or for chaired track with bull-head rails. British Standard 986—1941 was confined to concrete sleepers or blocks for track over which the maximum speed is limited to 20 m.p.h.

A special feature of the revised standard is the inclusion of design loading and the addition of clauses applicable to pre-stressed concrete sleepers, which, so far as experience to date shows, are likely to prove superior in large degree to sleepers designed with ordinary mild-steel reinforcement. If required by the purchaser sample sleepers selected from the bulk may be subjected to a prescribed bending test.

Appendices give much useful information relative to various recommended types of fastenings, to suit all types of sleepers and as to bull-head track a table indicates the effect on the gauge of using some two dozen or so old rail sections of all railways on concrete sleepers fitted with the "C.O.M." chair, which was designed with the object of enabling a large range of serviceable chairs to be re-used in this manner. As indicated by its title B.S. 986—1944 is a War Emergency Standard and as such has been prepared with due regard to the necessity for conserving materials in short supply. The pre-stressed type of concrete sleeper covered by the revised standard is confined to that in which anchorage of the steel is by bond only. The use of mechanical anchorage devices has so far not provided sufficient information to justify provision in a publication of this nature for any other method of pre-stressing.

### Geared Drive for Steam Locomotives

IN our issue of April 30, 1943, we published a letter signed "Metropolitan," in which a plea was made for the more extensive publication by railway companies of the results of their experimental work. There was a tendency to keep the results of trials and researches in private files for far too long a period; and, generally, an earlier release would be to the benefit of all. For example, thirty-five years after it was built, we are now allowed to know something of the inner history of Paget's 8-cylinder 2-6-2 engine with geared drive and single-acting cylinders with rotary valves, built as an experiment by the Midland Railway at Derby. It was a bold and highly original design, and its leading features are described in detail in an article by Mr. J. Clayton, entitled "Links in the History of the Locomotive" and published in *The Engineer* of March 26, 1943. Mr. Clayton, who is able to write as one "closely associated with the design and construction of the engine," gives it as his opinion that the principal cause of the failure of the locomotive was the distortion occurring in the rotary valves, in which excessive leakage occurred after running at high speed. Probably the heat generated by friction caused the edges of the valve, at the port, to curl inwards, as a result of the outside of the valve becoming hotter than the inside. The principal difficulty encountered thus appeared to be a metallurgical problem which might easily have been overcome in the light of present-day knowledge of high-duty materials.

That the advantages of a geared drive for steam locomotives are worthy of serious consideration is evident from the number of designs of such engines which have been noticed in *The Railway Gazette* in, say, the last ten years, for service in every part of the world. Gearing is now recognised as an essential feature in certain types of prime movers, such as diesel engines, steam turbines, etc., and also in many electric drives, and there is no reason why it should not also be considered for railway locomotives. With gearing, the power unit can rotate at high speed, which may well make for a much higher efficiency than a low speed; also the use of gearing enables a fair size of driving wheel to be retained, with a relatively low peripheral speed. The old objection to gearing in the locomotives of last century was probably the difficulty and expense of cutting the gears with sufficient accuracy; direct drive therefore flourished, and large-diameter cylinders were relied on to furnish sufficient power, and the use

of a long stroke enabled the piston speed to be kept at a reasonably high figure. The adoption of a geared drive enables the engine to be completely enclosed, not only excluding dust and dirt, but permitting much more efficient lubrication. Balancing of moving parts is simplified, and the type of drive lends itself to the adoption of ball and roller bearings.

Apart from the smaller types of geared steam locomotives, which are widely used all over the world for shunting in railway yards and factory sidings, some remarkably interesting designs have been developed for passenger train working; one type in particular was put into service about fifteen years ago for suburban work around Buenos Aires, and a few years later three examples of a notable 12-cylinder tank engine, comprising two 6-wheel power bogies, with flexible steam-pipes, were put into service on the metre-gauge Colombian National Railways.\* The design was intended to deal with trains weighing up to 200 tons on gradients up to 1 in 50; and on trials on a Belgian metre-gauge railway, before transhipment, a goods train weighing 114 tons was hauled up a gradient of 1 in 27. In this type, each of the total of six axles is driven by a Sentinel compound engine unit; the cylinder diameters are  $4\frac{1}{2}$  and  $7\frac{1}{2}$  in., and the stroke 6 in.

More recently, a more ambitious design of tender engine was put into service on the Egyptian State Railways. These locomotives are of the I.A.A.1 wheel arrangement, as each driving axle is provided with an independent drive, consisting of a totally enclosed engine having forced lubrication and, for the main crankshaft, double-row self-aligning roller bearings. The driving wheels rotate independently, so that coupling rods are eliminated, and the engine units are suspended from the respective axles to which they are geared, after the style of axle-suspended electric traction motors. An interesting feature of the design is the provision of flexible joints in the live steam and exhaust pipes, to allow for the vertical movement of the axleboxes in the guides. One of the principal objects in adopting such a type was the elimination of hammer blow on the track, achieved by balancing the engine units internally and hence avoiding the balance weights necessitated by direct drive. The total enclosure of the engine in a dusty country like Egypt is also bound to result in a great reduction in wear and tear, and consequently in maintenance costs.

### Back to Work, Please

BANQUETS, we know, are now dead in the traditional sense of the great public banquets, which started at seven and went on until eleven. Luncheons not only persist but are increasing in number. We will pass aside such mundane matters as a charge of 10s., 12s. 6d., or 15s. for a meal for which no restaurant proprietor is now allowed to charge more than 5s., plus, on few occasions, a small house charge. What, however, is agitating us is (a) the need for such functions, and (b) the way they are conducted. So far as the need for such functions is concerned, we are convinced that in most cases they really do provide an opportunity for reunion which cannot be met in any other way, and we welcome them. When, however, we come to the second point, we have often had to ask ourselves whether, the primary need having been met, it is necessary to inflict on the audience the tedium of long speeches devoid of any interest and lacking in constructive thought.

There was a celebrated society which used to run successful lunches in the heyday of its career before the war, and it was a tradition that the lunch itself should take no more than 45 minutes, and the speeches no more than 30 minutes. The luncheon started promptly at 1 o'clock and quite important business men who turned up knew that at 2.15 they could be speeding back to their offices. Nowadays, however, a good many of these luncheons have a habit of saying they will start at 1 o'clock and hanging on for the benefit of such bar receipts as may be going. Members are often lucky if they can get away by 3.30.

In the case of one luncheon of which we heard recently, tea was brought in at 4 o'clock to prevent the tongues flapping. Is it necessary today that speakers should be expected to go on for 20 or 40 minutes reading tedious speeches which they have prepared in advance, unpruned as to their audience, which usually had heard, or read, the identical arguments *ad nauseam*? Thank goodness the short, witty after-dinner-speech tradition is not entirely dead and a few speakers have a sense of humour and do not expect the reporters to take verbatim notes.

By all means let us have these luncheons. But to those who organise them let us say, please remember that those who turn up are busy men doing a spot of war work and give them an opportunity of getting back to their businesses in their own offices or in Whitehall—or its equivalent address—as soon after 2.15 as possible.

\* Published by the British Standards Institution, 28, Victoria Street, S.W.1. Price 2s.

\* *The Railway Gazette*, June 15, 1934, page 1055



## LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

## Sliding Platforms

35, Bedford Street,  
Strand, W.C.2. April 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I was interested to read in your issue of today (Scrap Heap, p. 384) a note on the removal of the sliding platform at Paddington. I do not know how widely this device has been employed but at Malton Station (York-Scarborough line) it was the only means of getting from one platform to another, there being neither subway nor footbridge. The sliding platform, which is, in effect, a truck, was in regular use up to February, 1943, when I last crossed on it, and for all I know it may be still in service. You may, perhaps, be aware of this instance and there may be others, though in the course of extensive travelling on British railways for some 50 years I have never come across another.

Yours faithfully,

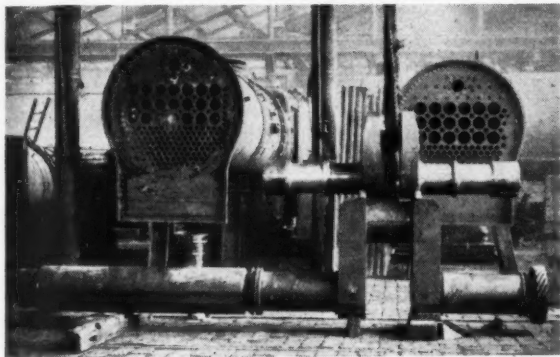
THOMAS WALLEY

## Wartime Expedients in Locomotive Repairs

Montevideo. December 18

TO THE EDITOR OF THE RAILWAY GAZETTE

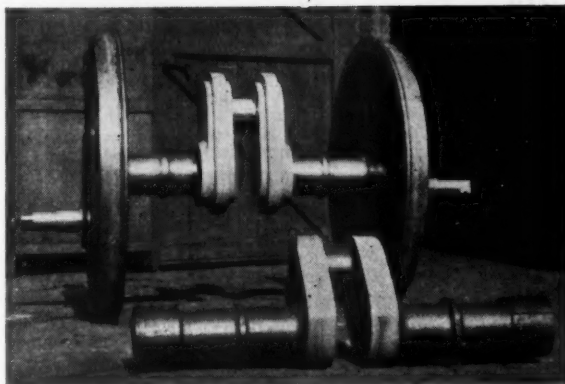
SIR,—Amongst the many expedients to which overseas railways have been driven in order to substitute materials customarily imported from the more intensively industrialised countries, there are fairly frequently some "eye-openers." One or two of these have been described in *The Railway Gazette* in recent months and it may be sufficiently interesting to add here the case of a replace crank-axle, for a 3-cylinder locomotive,



made in the Peñarol Shops of the Central Uruguay Railway recently out of at-first-sight unpromising materials.

The first illustration shows an old Dowson gas-engine drive-shaft purchased as scrap before the war; the failed single-throw locomotive crank-axle which was required to be replaced from the large shaft also appears in the photograph. The second the completed crank-axle as put into service compared with the old one.

The substitute crank-axle is a "hybrid" consisting of three parts, namely, each of the two axle-shafts and crank webs formed integrally from the old shaft whilst the crank-pin portion is built-up in a similar manner to common practice with a turned pin held in place by an interference fit and shrinkage plus the usual registering screw-plugs. For additional security the crank-



webs are hooped in the customary manner; these hoops are shrunk on the webs subsequently to the fitting of the crank-pin. This assembly has already successfully accomplished 50,000 miles of service, transmitting some 30,000 lb. tractive effort with a weight of about 15½ tons on the rail.

A somewhat picturesque instance of wartime working-up of unusual forms of scrap is illustrated below and shows one of a number of 6-ft. driving wheels and some of the uses to which the parts are put; not only are the spokes made into pins, turned bolts, nuts and the like, and the rims into light forgings, but



the main boss is also used for axlebox wedges, brake-block hangers, spring and brake suspensions, etc., and other forgings and counterweights are cut into blocks for use in various ways without forging, and even the crank-pin bosses with very little waste and no forging form housings for diesel engine bearings. Holes drilled for the separation of the parts to economise oxy-acetylene cutting—which is used for final severance—are evident in the illustration. Scrap tyres themselves are cut out in "V" at the set-screw holes enabling long bars of high-tensile steel to be drawn out without a flaw.

Yours faithfully,

F. C. DEWHURST

## Publications Received

**Industrial Publicity.** By C. K. Shaw. London: C. & J. Temple Limited, 20, Tudor Street, E.C.4. 7½ in. x 10½ in. x 1½ in. 438 pp. 390 ff. Price £5 5s.—The price of this book prepares one for something ambitious and impressive; both these adjectives are fully justified and some people would call the production flamboyant. In fact, the author has taken his own medicine. He realises how important is presentation in every aspect of publicity and he has seen to it that his own book creates an atmosphere of success and forcefulness. The number of illustrations, their expensive

arrangement and the little special touches throughout the book, suggest that wartime restrictions have had to stand aside to enable the author to get his thesis over. From the strictly railway point of view some disappointment must be recorded. Neither "railway" nor "transport" appear in the index, and this important field of activity seems to have been largely overlooked. As is natural for a past Publicity Officer at the Ministry of Aircraft Production the author devotes primary attention to ways and means of boosting factory output—and takes it for granted that the railways will handle the raw material and get the goods to their destination with their

customary efficiency. We find the greatest appeal in the illustrations, for we have not previously seen such a classified and well presented compilation. Every liaison officer, personnel manager and appeals organiser will need the book and it may be that even the railways will be able to adapt some of the ideas with advantage. In a commendatory foreword, General Sir Walter Kirke, G.C.B., C.M.G., D.S.O., stresses the value of a sound basis of mutual understanding in industry and welcomes the book as pointing the way to that greater co-operation which must follow the vast expansion of industrialism throughout the world as the result of this war.

## The Scrap Heap

The elevated railroads of New York City carried 221,000,000 passengers during 1893. The number of passenger coaches employed in the service is 1,116, and 75 new ones were added during the last four months.—From the "Scientific American" of March, 1894.

### DOWN THE LINE AT EASTER

One noted these sights from the train on the Guildford line this Easter. The banks near Surbiton Station are brightly pied with primroses—surely the prettiest memorial ever made for himself by a railway general manager!—but the big seedsman's grounds at Raynes Park, once gay with flowers at Easter, now show vegetables only.—From "The Manchester Guardian."

### THE DEMISE OF THE DINER

The sixty-five restaurant cars still remaining on the railways were withdrawn for the Easter holidays—a customary wartime proceeding—but this year they will not be restored, and so, until the end of the war, travellers, whatever the distance of their train journeys, will have to rely for food and drink on the supplies they bring with them. Four and a half years of war have whittled away the more endearing little luxuries and pleasures of life, and doubtless it was time that the dining-car went the way of other vanities, for its very existence was a most poignant reminder of happier times. The sleeping-car has had a song written in its honour, but the diner had a poetical appeal of its own, and dull was he of soul who did not feel that the breakfast porridge as the train shook itself free of the trammelling tunnels of Euston and sped to the North had the true, subtle flavour of Scotland about it even though Willesden Junction was hardly a mile behind. Picnics have always an attraction for the true romantic, but, while the holiday air does much to make up for the kettle that never boils, for plates that slide off awkward knees, for wasps in the jam, and for weather that

decides on the instant to turn from blue to grey, the inconveniences remain. The man who eats in a dining-car, however, has something of the emotions of a picnicker with the additional advantages of a stout plate-glass window between himself and the worst that the elements can do. After the war the old delights will probably come back into our lives in the order of their importance, and dining-cars may not be high on the priority list, but the faithful will wait for them with impatience.—From a fourth leader in "The Times."

### STOPPED TRAIN TO SAVE CHILD

Walter Fetterly, a Canadian Pacific engine driver, saw a child struggling in the water of the Little Saskatchewan River. He stopped the train and fished her out through a hole in the ice. After dragging six-year-old Margaret Moffat to safety, he turned her over "to smack the water" out of her. "Don't hit me," she said. "I didn't mean to fall in."—From "The Star."

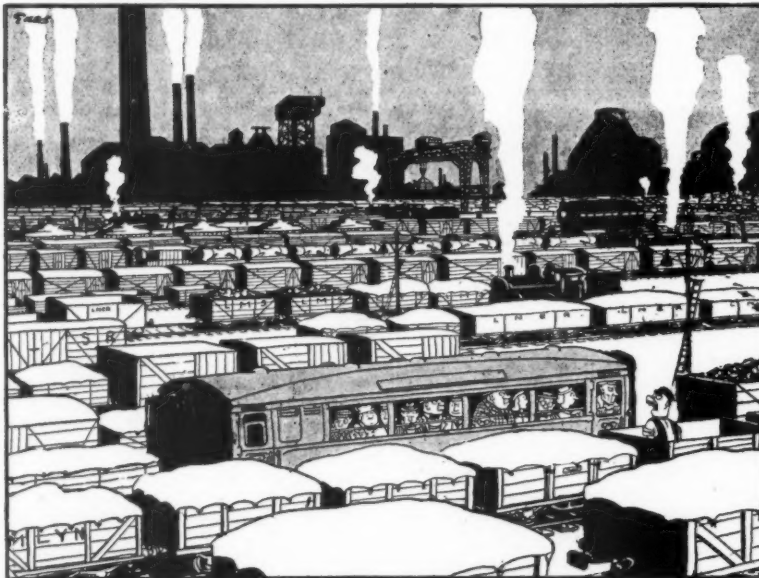
### "SIC TRANSIT"

Dutch refugees are telling today, with grim, ironic relish, this supposedly true story.

An arrogant German, waiting for a train at a railway station in the occupied Netherlands, left the platform to wash his hands. When he returned, he found, to his consternation, that his suitcase was missing. Failing to find it, the Nazi raged furiously. Addressing a Netherlander who was standing nearby, he roared, with apoplectic countenance: "What a ghastly country, where I just got out to wash my hands, and return to find my suitcase gone!"

With immobile features, the Netherlander answered: "But you ought to hear what happened to me. About a month ago I was in Berlin, at the station that you call the Annhalter Bahnhof. Like you, I went out to wash my hands. When I got back, my suitcase was gone—the platform was gone—and, as a matter of fact, the whole Annhalter Station was gone!"

The Nazi said nothing.



"Perhaps this'll teach you to stay at 'ome next 'oliday".

[From the "Sunday Express"]

## SMILING THROUGH (No. 2,901) By LEE



"Having a lovely time . . . wish you were here"

[From "The Evening News"]

Only Grandma, porcelain and unmoved as usual, remained in command. "You can play with your train on the shelf," she said. This was an unusual privilege which put any other observation out of mind. In that room, a kind of kitchen annexe, there was a long shelf below the windows which looked out on the courtyard. It was crowded with ferns, geraniums and fuchsias, but if the pots were pushed back there was space to move the locomotive along at the level of the eye. This gave intimate working view of the moving wheels and driving rods (what will small boys do when all locomotives are so streamlined and panelled that no working parts are visible?). — From "Thorofare," by Christopher Morley.

On the Canadian National Railways newspapers, magazines and other paper left in trains by the public are carefully salvaged in the various coach yards throughout the system. All waste paper is collected, baled and disposed of through regular channels. From the start of the war to the end of 1943, the amount of waste paper saved by employees of the C.N.R. was 5,389,571 lb. This figure includes paper salvaged by the coach yards and all other departments and disposed of by the railway's Stores Department. Some is used to make Red Cross parcel cartons for prisoners of war and if Canadian National's collection since September, 1939, had been used exclusively for that purpose there would have been sufficient for 7,485,515 cartons.

That new lilac (formerly grey) 7d. return-ticket issued by London Transport rural services is the inspiration, our spies report, of a group of Cambridge psychologists, assisted by a noted R.A. Grey 7d. return-tickets were found to afflict the travelling public with misery, languor, suicidal mania, and hives. After weeks of experiment on rats, the R.A. was called in. "Can you," he was asked, "design a 7d. bus return-ticket in pure lilac, a tint inducing a mood of subdued but spontaneous gaiety?" After several attempts the R.A. succeeded. — "Timothy Shy" in the News Chronicle.



## OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

## VICTORIA

## New Suburban Trains

Two additional suburban trains are under construction by the Department of Railways; they are to comprise 14 coaches (six motor coaches, six first class trailer coaches and two second class smoking trailer coaches). All will be of standard type, with sliding doors and cross compartments; because of the demand for simplicity in design, ledges and mouldings will be eliminated wherever possible. The interior and exterior panelling will be of the flush type. The second class coaches will have more comfortable seats than those of existing suburban stock. An innovation will be the installation of lights of the type introduced in certain of the Department's latest trams; a light of this type throws an intensive beam over the selected area, and a soft diffused light over the ceiling for general illumination.

## Post-War Programme

The Commissioners for Railways, Victoria, have submitted to the National Works Council a programme of post-war works, which is estimated to cost approximately £14,250,000, and would be spread over some years. The Chairman of Commissioners, Mr. N. C. Harris, has pointed out that unification of the gauges is a paramount national post-war task, and that if the unification were undertaken, the departmental programme would require to be amended in certain important respects, particularly in connection with new locomotives and rolling stock.

Construction during three years would include 70 locomotives, among which would be 40 of class "K," 23 additional passenger locomotives, and two of class "H"; 1,780 goods vehicles and 116 carriages for the country and suburban services.

The programme for the Way & Works Branch includes a considerable amount of track reconditioning and relaying, reconstruction of bridges, and reconditioning of buildings. In expectation of heavier traffic to South Australia and between Melbourne and Bendigo, it is proposed to relay with heavier rails the tracks between Sunshine and Ararat, and Sunshine and Bendigo. A new locomotive depot and marshalling yards at Seymour, and the extension of goods shed accommodation at Spencer Street, also are proposed.

The rapidly-developing suburban traffic has necessitated a proposal to duplicate certain suburban lines; in this connection Richmond Station is to be reconstructed, and the present Cremorne bridges over the Yarra River are to be replaced by a structure carrying six tracks. The extension of suburban track facilities would entail heavy expenditure on additional platforms and tracks at Flinders Street and Princes Bridge Stations. Other proposals include the modernisation of Newport "A" power station, and the construction of substations.

## Murchison Bridge Rebuilt

The rebuilding of the greater portion of the railway bridge over the River Goulburn at Murchison—to replace the wooden structure with one of steel and concrete is practically complete. Among the factors responsible for the decision to replace the original bridge which was built in 1890 and designed to carry a locomotive of 67 tons, was that the age of the timbers justified a new structure, especially as they were required recently to carry locomotives weighing

123 tons. Also, on occasions when the river was flowing high, constant trouble and expense were incurred by debris collecting against the wooden piles.

New materials in the bridge comprise twelve 30-ft. spans and six 60-ft. spans, with five concrete river piers and 14 concrete piers on the approaches; the foundation work for the river piers was carried out in coffer dams using steel sheet piling. The rebuilding was completed without any major delay or interruption. At the Spotswood Workshops, the steel girders, some of which were for 60-ft. spans, were rapidly fabricated, and the spans were erected at the site at the rate of one span a week.

## New Cafeteria at Flinders Street

The self-service cafeteria which replaced the main concourse dining room at Spencer Street Station, and was described in the December 24, 1943, issue of *The Railway Gazette*, has served an average of 2,300 persons a day; this compares with the daily average for the dining room of 1,770. The success of the cafeteria in meeting hurried demands for food at the present time of staff shortage resulted in the Commissioners for Railways deciding to rebuild as a cafeteria the No. 1 platform upper dining room at Flinders Street Station. The new cafeteria provides accommodation for 72 persons at 18 tables. During the conversion, which took from two to three weeks, those desiring refreshment were able to use the basement dining room.

## UNITED STATES

## Narrow to Standard Gauge Conversion

On August 25 last, the Leadville-Climax mineral section of the Colorado & Southern Railroad—a part of the C.B. & Q. system—was converted from narrow to standard gauge. The actual conversion was effected in 24 hr. with the minimum interruption to traffic over this 14-mile section, which is important in that it carries a heavy traffic in molybdenum concentrates from the Climax mine.

Standard-gauge sleepers—which in anticipation of the conversion had been used for some time in renewals—were first inserted under the narrow-gauge rails, this work beginning on May 1, and second hand 75-lb. and 85-lb. rails (weighing about 67 lb. per yd. as relaid) were then laid outside the narrow-gauge rails. Widening of banks and cuttings was subsequently carried out telescopically with a standard-gauge locomotive, two steam ditchers, a Jordan spreader and four air-dump cars. A diesel shovel and bulldozer were also used ahead of the telescopic work.

The bridges were all wide enough to carry standard-gauge traffic, but needed strengthening, and culverts had to be lengthened. The turning triangles at Leadville and Climax, having 32-deg. (2½-ch.) had to be relaid with easier curves.

## The Ambassador in Collision

The Interstate Commerce Commission has issued a report on the collision which occurred on November 24, 1943, on the Pittsburgh-Chicago main line of the Baltimore & Ohio Railroad at Newton Falls, Ohio; this section is used also, under running powers, by the Pennsylvania Railroad. At the site of the accident, the line is double, controlled by automatic block signals, and is straight; a reception road runs parallel to it for just over 1½ miles.

A Baltimore & Ohio eastbound double-headed freight train of 58 bogie wagons and a caboose was standing in the reception road, when a single-headed Pennsylvania freight train, of 74 wagons and a caboose, entered the reception road and ran into the rear of the former at 10 m.p.h. As a result, the Pennsylvania locomotive's tender was derailed, and fouled the eastbound main line. A minute later, at 11.10 p.m., it was run into by Train No. 20, the Ambassador, of the Baltimore & Ohio Railroad, from Chicago to Washington, consisting of a twin-unit diesel-electric locomotive, and twelve passenger vehicles. The diesel locomotive and the first four carriages of the express, which was travelling at 55 m.p.h., were derailed and badly damaged.

The front brakeman of the Pennsylvania train did his utmost to signal the express to a stop, but the time available was insufficient, and the driver of the Ambassador was not able to reduce his speed by more than 15 m.p.h. from the permitted maximum of 70 m.p.h. at which the train had been travelling. As the driver and fireman of the Pennsylvania train were both killed, the reason for their failure to stop before running into the Baltimore & Ohio train was not ascertainable. The Ambassador was involved in a worse collision exactly 14 months previously at Dickerson, Maryland, when 14 passengers were killed; in the more recent accident 74 were injured.

## FRANCE

## New Producer-Gas Railcar

Exhaustive tests were carried out recently on the Paris-Cherbourg main line with a railcar of a new type, fitted with a producer-gas plant operating on coal. The railcar, which was built by the Renault concern, has a 110-h.p. engine, and can accommodate 35 passengers. The test runs averaged four hours each, and speeds of up to 62 m.p.h. are reported to have been attained.

With a view to post-war operation, the engine has been designed to work on petrol if desired, and that fuel also was used during the tests. Coal consumption averaged 176 lb. per 100 km. (62 miles).

The producer-gas plant was manufactured by the Unic Works, and is of a type proposed also for marine use. The coal is used in the form of fine grains, a product which has been given the trade name of "archigaz." An article dealing with the use of substitute fuels in France was published in our February 4 issue.

## SLOVAKIA

## Express Passenger Services

The two express passenger services operating in Slovakia are maintained with diesel railcar units. The Tatra Express (Tatranský Expres), was described in *The Railway Gazette* of October 16, 1942, and in *The Railway Gazette, Diesel Railway Traction Supplement*, for December of that year. It operates between Bratislava, the capital of Slovakia, and Spis Nova Ves, via Poprad-Tatry, and consists of a two-unit set. Since the last reference the timetable has been amended slightly, so that it now leaves Bratislava at 8 a.m. instead of 7.20 a.m., with correspondingly later arrival times en route; the return journey is commenced ten minutes later than the previous departure.

The Danube Express (Dunajski Expres) operates between Bratislava and Budapest (West), via Czeklesz and Szenc, the respective Slovak and Hungarian frontier stations. The total distance is 133 miles, for which 2 hr. 32 min. is required in each direction. Like those of the Tatra Express, the railcars on the Bratislava-Budapest service have buffet compartments.

## Reciprocal Wagon User in Argentina

Summary of paper\* by Francis B. Lowry, Superintendent of Operations, Buenos Ayres & Pacific Railway

IN most countries where different railways of the same track gauge are connected physically, the problem of the interchange of rolling stock has to be faced, and each country or group of railways endeavours to find an equitable solution best suited to its particular circumstances. Of approximately 42,000 km. of railways of various gauges in Argentina, there is a group of important British-owned broad-gauge lines as follows:—

	Kilometres
Buenos Ayres Great Southern...	8,169
Buenos Ayres Western ...	3,099
Buenos Ayres & Pacific ...	4,525
Central Argentine ...	5,994
	<hr/> 21,787

Although on each line the bulk of the traffic is local between the zones of production and the nearest port, there is a fair amount of traffic between inland towns, and the wagon exchange among the broad-gauge railways amounts to 1,360 wagons daily through 28 different junctions. This exchange of rolling stock has naturally led to the consideration of the use by the different companies of one another's wagons, and of the resultant problems, as the transshipment of traffic at the junction stations was found to have serious objections.

In Argentina—as in other countries—an independent establishment, known as the Railway Clearing House, was set up by the companies for recording the interchange of traffic and rolling stock, and clearing accounts, and this Railway Clearing House framed regulations for the use of wagons on lines other than those of the owner. Under these regulations compensation is paid by the using company, on a loaded kilometric basis, for every journey, but no payment is made for the distance traversed empty when returning home. After a given free time, according to the distance travelled, inter-company demurrage is incurred. The free time allowances before demurrage is payable are: loaded journey up to 100 km. and empty return, 7 days; every additional 100 km. of forward journey, 1 day additional. The kilometric payments apply to loads of a weight not less than one-third of the wagon capacity; otherwise the tariff for the next smaller size of wagon is charged. Further, if a wagon larger than necessary is used through the absence of the required size, kilometric and demurrage charges are applied at the rates appropriate to the correct size of wagon. The Clearing House Regulations permit making-up the load of a "foreign" wagon provided that no diversion or extension of the original loaded journey is caused. Loading beyond the owning line is not permitted without the owner's permission, and empty wagons have to be returned by precisely the same route used on the loaded journey. Repairs, other than those necessary to enable a wagon to return to the owner, are performed by the owning companies. Any damage occurring off the owning line is the responsibility of the using company and a formula is provided for compensating the owner for wagons damaged beyond repair.

As the ruling principle underlying the Railway Clearing House regulations is to

get wagons back to the owners, these regulations necessarily hamper free use. Moreover, compliance with them involves a great deal of selective shunting and empty wagon mileage, and affects the supply of empty wagons to traders.

### Common User

Consequently, in January, 1937, a system of "common user" was introduced in Argentina. Special types of wagons were excluded, but, of some 49,000 wagons owned by the four broad-gauge lines, approximately 39,000 were included in the scheme. The arrangement was operated on lines similar to those adopted in Great Britain in 1915, except that, whereas in Great Britain no charge was made for wagon hire, in Argentina a hire charge of \$2 per wagon day was debited against the user to the credit of the wagon owner, irrespective of the type of wagon used. Soon, however, this was modified to a charge of \$1 for small open, \$2 for small covered, and \$3 for large (4-axle) open or covered wagons. The Railway Clearing House kept the accounts and submitted weekly statements of debits and credits. It also supervised the junction exchange records and made arrangements for the equation of stocks by ordering empty wagons from one company to another.

The Argentine common user scheme broke down because of the following serious difficulties: (a) The absence from the owning line of covered wagons adapted for bulk-grain conveyance, for which the availability under common user of ordinary covered wagons was not an adequate alternative; (b) wagon repairs were found to cost more because wagons were being neglected; (c) much time was lost in obtaining spare parts to enable damaged "foreign" wagons to be worked home, as there was then little standardisation in wagon construction; (d) coupling failures were more frequent, partly because all couplings were not of similar strength and dimensions; (e) hot axle boxes were more common than they should have been, possibly because of neglect by "foreign" users.

### Reciprocal User

Consequently, common user was replaced on August 1, 1940, by a system known as "reciprocal user," which operates at the present time. The parties to the agreement (dated July 17, 1940) are the B.A.G.S., the B.A.W., the C.A.R., and the B.A.P. For this purpose the rolling stock of the Bahía Blanca North Western is included in that of the B.A.G.S., and that of the Argentine Great Western in the B.A.P.

Under this system any wagons in the scheme (and these are specially marked externally with a cross in a circle) may be used by any of the parties on the payment to the owner of daily wagon hire charges (subject to a maximum absence from the parent line as described later). Loaded journeys are unrestricted in the matter of direction, but the return of empty wagons was normally permitted only at the receiving junction. This was found unnecessarily restrictive, and a provisional agreement has now been made for the return of empty wagons through any junction. The maximum period during which wagons included in the arrange-

ment may be used by railways other than the owner is 90 days, and a penalty charge applies in respect of any excess over that period. Free periods of three days at destination stations and one day for "transit" companies are allowed before the hire charges begin to operate.

Charges on the kilometric Clearing House scale no longer apply, but the scheme does not provide for the "balancing" of stock; instead, any company may at any time demand the return of any of its wagons included in the scheme. The maintenance of wagons continues to be the responsibility of the owning company, by which also the periodical oiling of axle boxes and examination of bearings, etc., are performed. The cost of damage through accident is charged to the company responsible for the damage, and there is an agreed formula for the compensation of the owning company for the vehicles completely destroyed. The method of operating the financial side of this arrangement is that, as soon as a foreign wagon is received at a junction, the date and the name of the junction are entered on a card which accompanies the wagon wherever it travels until it returns to the parent line. Every time the wagon passes from one company to another the name of the junction and the date are entered on the card, which indicates when the maximum absence of 90 days is being approached and later forms the basis for the calculation of wagon hire charges.

Reciprocal user possesses only some of the advantages of common user and is attended by the disadvantages that: (a) the maximum period of 90 days of absence may be unduly restrictive in the case of wagons recently overhauled; (b) there is no provision for keeping a balance of stock as between companies; (c) in consequence, each company has to maintain records of the use made of foreign wagons and has to check the Clearing House accounts; and (d) wagons of special construction are still subject to the loaded kilometric tariff plus demurrage charges. Centralised wagon control operated by the Railway Clearing House or some similar independent organisation would have considerable advantages. Such an office would receive daily advice of all wagon movements through the junctions and could instruct the companies every week on what steps had to be taken to restore the balances, having regard to the wagon requirements of all lines. By this means duplication of control and loss of time by the executive officers of the companies would be avoided.

### CONTROL OF CONTAINERS & PACKAGING.

—The Minister of Supply has made the Control of Containers & Packaging (No. 1) (General) Order, 1944 (S.R. & O. 1944 No. 404), price 2d., which revokes and re-makes in consolidated and re-arranged form, with amendments, the Control of Tins, Cans, Kegs, Drums & Packaging Pails (Nos. 5-10) Orders, 1940-43; the Control of Packaging (Nos. 1 & 3) Orders, 1942; and the Control of Metal Collapsible Tubes (No. 1) Order, 1942. One of the revoked Orders, which contained a provision prohibiting the use of black plate, tinplate, etc., in the manufacture of certain non-essential articles, has been made the subject of a separate Order, the Control of Iron & Steel (No. 33) Order, 1944 (S.R. & O. 1944 No. 405), price 1d. Copies of both Orders may be obtained from H.M. Stationery Office, Kingsway, W.C.2., or through any bookseller.

\* Read before the Argentine & River Plate Centre of the Institute of Transport at Buenos Aires on October 5, 1943



## L.M.S.R. Locomotive Casualty Report System—I

### Methods used for the reporting of, and dealing with, failures of engines

By Harold Rudgard, A.M.I.Mech.E., M.I.Loco.E., M.Inst.T., Superintendent of Motive Power, L.M.S.R.

It is the responsibility of the Chief Operating Manager to supply engines of the correct classification in good mechanical condition to work trains, manned by well-trained and responsible engine-men, at the times they are required. The periods, either mileage or time, at which the various parts of engines are examined and at which boilers are washed out are agreed by the Chief Mechanical Engineer before adoption, and the period at which boilers are examined are laid down by him. The organisation and detailed working in connection with these matters is delegated by the Chief Operating Manager and Chief Mechanical Engineer to a Superintendent of Motive Power.

So that this can be carried out it is essential that there should be a well understood and organised system of examination of the engines at motive power depots. The L.M.S.R. has provided for this by laying down a system, which is adopted at its motive power depots, and which has as its object the maintaining of engines in good mechanical condition in order, as far as possible, to prevent failure of an engine in traffic; this entails the examination of, and carrying out repairs to, component parts of the engine and boiler on a pre-arranged basis.

Broadly, those examinations carried out on a period basis are to static parts of the locomotive and those on a mileage basis to moving parts. This can be illustrated by mentioning that examinations of injectors, gauge frames, boilers and fireboxes, vacuum-brake apparatus, steam-heating apparatus, etc., are carried out on a periodical basis, whereas examinations to valves and pistons, big and little ends, wheels, tyres and axles, crank axles, etc., are done on a mileage basis.

In all, 64 detailed parts of the engine are examined on a period basis and 41 parts on a mileage basis, and the following list of parts and fittings examined on a pre-arranged basis is given, also with notes for the guidance of District Locomotive Superintendents, to illustrate the comprehensiveness of the examination system.

#### PARTS EXAMINED

Air valves.  
Automatic vacuum or auto steam and vacuum brake.  
Axles, crank. Solid or built up.  
Axleboxes, engine bogie, truck and coupled wheel.  
Axleboxes, tender.  
Big ends.  
Blast pipe.  
Blowdown, continuous, valve and fittings.  
Boilers.  
Bogie, engine.  
Brakes, Westinghouse.  
By-pass valve, pipes and connections.  
Coal pusher.  
Coal bunker, rotary.  
Connecting and coupling rods.  
Crank pins.  
Crossheads, valve spindle.  
Cylinders.  
Cylinder cocks.  
Desanding water apparatus.  
Deflector plate, smokebox.  
Drawgear.  
Ejectors.  
Feed trays, top.  
Gauge frames and trial taps.  
Gauge glasses.  
Gauge, boiler-steam pressure.  
Injectors, live-steam.

Injectors, exhaust.  
Injectors, delivery pipes in boiler.  
Indicators, speed.  
Joints, pipe.  
Joy's valve gear.  
Jumper blast pipe top.  
Little ends.  
Lubricator pipes, flexible, to engine axleboxes.  
Lubricator regulator.  
Lubricator, mechanical.  
Lubricator fountain.  
Manifold master valve.  
Non-return valves.  
Oil pipes.  
Pick-up, water apparatus.  
Piston rings and heads.  
Piston rods.  
Piston valves.  
Ports, steam and exhaust.  
Regulator control gear, vacuum.  
Reversing gear.  
Sand gun.  
Sanding, mechanical, trickle.  
Sanding, steam apparatus.  
Slide valves.  
Smokebox fittings.  
Steam-heating apparatus.  
Tanks, tender and side.  
Valves, steam-pressure safety.  
Wheels and tyres.

The main examinations causing steam to be out of the boiler are the boiler and firebox examinations, and washing out coincides with these examinations. (Methods used in cooling down and washing out locomotive boilers were referred to in *The Railway Gazette* of May 5, 1940). All other examinations can be carried out during the period engines are stopped for boiler and firebox examination. In carrying out these arrangements, no locomotive should be out of service stopped at sheds for 24 hours, other than for boiler repairs.

If, because of special circumstances, it is considered necessary to carry out any of the examinations more frequently than is provided for in these instructions, or to introduce examinations of other details not mentioned, full particulars are reported to Headquarters for approval. Whenever an engine is stopped for repairs which will necessitate the engine being out of service two days or longer, the District Locomotive Superintendent, Running Shed Foreman, or his representative, after completion of the repairs, and before the engine is put to work, must make a thorough personal examination of the engine. A record is kept by the District Locomotive Superintendent or Running Shed Foreman of every engine thus examined, and is produced when required.

In the case of old type engines of constituent companies examination of details not covered in these instructions, are carried out to the requirements of the Divisional Superintendent, or Operating Manager (Northern Division).

It should be made clear that when examinations of the various parts are undertaken it is laid down that all repairs and adjustments found necessary as a result of the examination are carried out before the engine is put back into traffic. Since the amalgamation of the constituent companies of the L.M.S.R. into one company the total L.M.S.R. engine stock has been reduced gradually from 10,346 to 7,717. It will, therefore, be seen that to enable the Superintendent of Motive Power successfully to fulfil his obligations it has been necessary to ensure that each engine is used to the maximum extent each work-

ing day, and that the total engines out of service each day for repair and maintenance is reduced to a minimum and also that the failures to engines in traffic be eliminated as far as possible.

To achieve these objects the diagramming of engines has been given detailed attention, with the result that the figure of miles worked per engine per day has been very considerably improved. The larger motive power depots have been provided with up-to-date coaling plants, ash-handling plants, etc., to speed up the turn round of engines, and the organisation of the washing out of boilers, examination and repairs to engines, has been overhauled. A serious view always has been taken of engine failures as indicative of either a failure to maintain engines in good mechanical condition by the Superintendent of Motive Power or defects in design, and, so that these two aspects of the same problem can be constantly kept under review, a well thought out and rigidly applied system of reporting failures to engines has been adopted by the L.M.S.R., which is called a casualty system.

The casualty system now in use is an extension of the ideas incorporated in the original system of reporting casualties on the old Midland Railway and the author of this article was closely associated with the late Sir Cecil Paget in bringing into being this method. The casualty system also brings to light any failure on the part of the motive power staff to carry out the instructions governing the examination and repair to locomotives, or cases of bad workmanship resulting in failure of an engine, but this, although necessary, is considered as of secondary importance to the main object of the casualty system already mentioned; the primary object is to ascertain the real cause of the casualty, with a view to eliminating similar cases.

In the first years after amalgamation, the casualty system was operated from Headquarters, but a change has been made and the present instructions provide for all casualties being reported by District Locomotive Superintendents to their respective Divisional Superintendents at Crewe, Derby and Manchester, and to the Operating Manager, Glasgow. The Divisional Superintendents and Operating Manager, Glasgow, submit four-weekly statements of casualties under the following headings to the Superintendent of Motive Power:—

1. Summary of debitable casualties.  
A debitable casualty is defined as a mechanical casualty where three or more minutes have been lost.
2. Analysis of casualties—mechanical.
3. Analysis of casualties—other than mechanical.

The system of reporting casualties thus provides for detailed examination of the individual casualty forms in the Divisional Superintendents' office, and the following records are kept at Headquarters:—

1. Four-weekly summary and aggregate summary of debitable casualties.
2. Four-weekly summary and aggregate summary of mechanical casualties.
3. Four-weekly summary and aggregate of "other than mechanical" casualties.
4. Four-weekly and aggregate statements of miles run per debitable casualty.
5. Four-weekly and aggregate statements of miles run per mechanical casualty.

These records enable the Superintendent of Motive Power to observe the general trend of casualties under any particular classification and if necessary the Superintendent of Motive Power, calls for detailed information from the Divisional Superintendents or Operating Manager.

(Continued on page 416)

## Signalling on New Lines Serving a War Factory

*Complete track circuiting and special single line electric interlocking, dispensing with token working, are features*

THE numerous works carried out for the Government during the last three years by the L.N.E.R. have involved a considerable amount of new signalling, some of a special kind, such as that illustrated in our issue of July 3, 1942, page 8. A somewhat unusual installation in the Southern Area of the railway is one that has been provided in connection with a factory where the majority of the workers live in two towns, situated respectively 12½ miles to the north and 4½ miles to the south of the site. The numbers travelling to and from each shift made road transport out of the question and a new line 1½ miles long was therefore constructed, with connecting curves from the main line in each direction serving a new passenger station within the factory and a marshalling yard located nearer to the main line. The nature of the traffic to the station necessitated two separate single lines with an independent curve for southbound freight traffic. A 12-lever ground-level signal box was provided at the entrance to the yard, working all signals and points at the factory end of the branch, except the connections at the factory station. These are operated locally from ground frames electrically controlled from the new box.

### The Signalling Layout

The signalling layout is shown on the accompanying diagram. The up and down loops on the main line were already in existence when the work was commenced. The north curve and south goods curve connect directly with the up loop, and the south passenger curve connects directly with the up main line beyond the up loop, where a new facing crossover gives access from the down main line. All new connections are power operated from B signal box, which now controls eight sets of power points. The connections at the main-line end of the new curves are operated by 30-V. combined type point machines fed from local batteries of 30 nickel-iron cells trickle charged from the existing 110-V. a.c. overhead mains. All new track circuits are directly fed through metal rectifiers with "power off" relays which cut in a 500 ampere-hr. stand-by primary battery, of the caustic-soda type, should the power supply fail. The new

factory box frame was fitted in the shops with the necessary electric lever locks and circuit controllers and sent direct to the site. All new apparatus cupboards were assembled and wired complete in the shops, which reduced installation time to a minimum. The work is generally in accordance with the standard practice of the Southern Area of the L.N.E.R., with a few special features to meet the local conditions.

### The Working on the Single Lines

The introduction of track-circuit control in place of token working on single lines, eliminating the slowing down of trains and provision of signal boxes to facilitate token exchange, has been L.N.E.R. policy for some years and has given very satisfactory results. The usual practice is to provide so-called "acceptance levers" in the boxes at each end of a single-line section, enabling the local interlocking to be carried out mechanically, but in this case it was not possible to provide the required levers in B signal box and an arrangement using "acceptance plungers" with electrical interlocking was therefore devised. The two signalmen concerned each have an apparatus cabinet shown on the left of the diagram of the lay-out, in which each single-line section has an acceptance plunger, with lamp visual, a "train going to" lamp indication below it, and at the bottom another plunger and visual for co-operative release purposes. There are also block bells for each single-line section.

The method of working is as follows:— Assume a train requires to travel from B signal box to the factory branch along the north curve. It is described on the block bell to the factory box where the signalman, if prepared to allow it to approach, presses the relative acceptance plunger, lighting the visual on that plunger, and the "train going to" visual at B box provided (1) no uncleared acceptance for the opposite direction of traffic exists; (2) the intervening track circuit P is clear; (3) the factory box home signals Nos. 1 and 2 are at danger. The illumination of the lamps tells the accepting signalman that the release he has sent has been effective and

the offering signalman that he is free to pull off the signal—in this case No. 50 at B box—controlling the entrance to the single-line section. To give the signalman at factory box the information normally afforded when electric-token instruments are used, the "train coming from" lamp in the acceptance plunger remains alight until the train arrives on track circuit W but the "train going to" lamp at B box is extinguished when the train enters track circuit P. All signals leading to single-line sections have identical controls and are backlocked until the relative track circuits on the single line have become occupied. After an acceptance has been given no subsequent depression of the plungers, at either end of the section, can have any effect until the train concerned has cleared the section or the co-operative release has been used.

### The Co-operative Release

As any transmitted acceptance necessarily has to be stored at the box in rear, some release must be provided to meet the case of a train having to be cancelled or a signalman making a mistake and signalling one forward on the wrong route. This release takes the form of a plunger at each end of the section and when it is required the signalman at the box in rear (who needs the release) presses his plunger, lighting the visual on it and the one on the corresponding plunger at the box in advance. The signalman there then presses his plunger, extinguishing both lamps and completing the cancellation. In this way each signalman can tell when the other has carried out his part of the operation. As complete track-locking control is provided, there is no possibility of misusing the co-operative release. Replacement of signals is ensured by normal proving, which at B box is taken back to and included in the main-line single-needle block apparatus. Full normal proving is also provided at the factory box. As seen on the diagram, there are two level crossings, for which the Ministry of Supply accepts responsibility, one of which has a special bell warning arrangement, in which rail contacts are used.

This installation is by far the largest of the kind attempted by the L.N.E.R. Southern Area, and the controls for the single-line working are believed to be unique, at least as far as this country is concerned. It was designed under the direction of the Signal & Telegraph Engineer of the Area, Mr. A. E. Tattersall, M.I.E.E., F.Inst.P.

### L.M.S.R. Locomotive Casualty Report System—(continued from page 415)

Dealing with casualties is looked on by a District Locomotive Superintendent as of primary importance and for purposes of identification the casualty report forms on each division were printed in distinctive colours, namely:—

Northern division ..	Pink
West division ..	Blue
Central division ..	Green
Midland division ..	Yellow

and, therefore, not only did the form draw attention to itself as something requiring special attention, but the use of a definite colour for each division enabled the District Locomotive Superintendent to realise immediately whether he was dealing with a casualty affecting his own division or one to an engine allocated to another division. Coloured forms are not now in general use because of the difficulties of wartime conditions.

(To be continued)

**PRODUCTION OF RAILWAY SLEEPERS.**— In connection with the recent statement by the Home Timber Production Department, Ministry of Supply, concerning the production of sleepers during 1944 (see our March 17 issue), the Ministry requests producers to co-operate in securing economy in transport by offering their main-line production to the railway company on the system of which the producing mill concerned is situated, and the balance of their production in each case to the nearest certified sleeper depot, the name of which may be obtained from the Ministry. The Railway Executive Stores Committee, Whaddon Lodge, Cockfosters Road, Hadley Wood, Middlesex, will be glad to hear from any new producer able to supply the railways with main-line grade sleepers.

**MADRID UNDERGROUND.**— Some 262,000,000 passengers were carried by the Madrid Metropolitan Railway in 1943, compared with about 258,000,000 in the previous year.

**SOUTHAMPTON DOCK CHARGES.**—In consequence of the increase in pay to dock labour a further advance in the rates and charges at Southampton Docks which were authorised by the second schedule to the Southern Railway Act, 1923, came into force on April 6. On May 16, 1942, an increase of 5 per cent. on the 1923 scheduled charges became operative, and this increase now becomes 8 per cent. and applies to the following charges:—(1) on merchandise imported and landed, with the exception of the wharfage dues (when the import rate is not payable) and the overside rate; (2) on bonding rates and charges for wines and spirits, with the exception of charges for rent, agency, etc.; (3) on wood, including dock haulage, with the exception of charges for rent and the overside rate; (4) on merchandise for shipment, with the exception of the wharfage due and the overside rate in certain cases; (5) in the rates, charges, and rents on grain, seed, and flour imported, with the exception of charges for warehouse rent.



## RAILWAY NEWS SECTION

## PERSONAL

Dr. H. J. Nichols, D.Sc., M.Inst.C.E., A.M.I.Mech.E., J.P., Deputy General Manager, Bombay, Baroda & Central India Railway, has been appointed General Manager, in succession to Mr. G. C. Laughton, C.I.E., A.M.Inst.C.E., M.Inst.T., A.C.G.I., J.P., who proceeded on leave preparatory to retirement with effect from January 25.

Mr. H. G. Dring, who, as recorded in our March 24 issue, has retired from the position of European Passenger Manager, Canadian Pacific Railway, entered the company's service as a junior clerk in

from 1934 to 1936. In November of the latter year he became Chief Clerk, Development Department, Chief Goods Manager's Office. Mr. Hollingsworth was appointed Assistant District Goods Manager, Cardiff, in 1938, and District Goods Manager, Worcester, in 1942. A more detailed biography and a portrait of Mr. Hollingsworth were published in our November 20, 1942, issue.

Mr. A. L. Rawlinson, Assistant European Passenger Manager, Canadian Pacific Railway, who, as recorded in our March 24 issue, has been appointed European Passenger Manager, began his business career as a clerk in the service



Mr. H. G. Dring

European Passenger Manager,  
Canadian Pacific Railway, 1919-44



Mr. T. E. Chrimes

Appointed Assistant Locomotive Running  
Superintendent, Southern Railway



Mr. A. L. Rawlinson

Appointed European Passenger Manager,  
Canadian Pacific Railway

1897. Later in the same year he was promoted clerk, and in 1901 was appointed counter clerk. Four years later he was made Chief Clerk to the General Passenger Agent, and in 1908 was appointed Assistant General Passenger Agent, in London. Mr. Dring became General Passenger Agent in January, 1916; and in March, 1919, he took up the position of European Passenger Manager.

Mr. R. Mowbray, an officer in the office of the Secretary of State for India, London, has been re-appointed Government Director of Indian Railway Companies, which position he had recently relinquished, in succession to the late Mr. A. T. Williams. Mr. B. D. Tims remains Assistant Government Director.

Mr. J. A. Ellis has been re-appointed Commissioner of Railways, Western Australia, for his third consecutive five-year term.

Mr. John Shearman, Road Motor Engineer of the L.M.S.R., has been elected President of the Institution of Automobile Engineers for 1944-45. Mr. Shearman has been for the past three years Chairman of the Automobile Research Committee of the Institution. Mr. W. W. Constantine, Mr. Frank G. Woollard and Captain G. T. Smith-Clarke have been elected Vice-Presidents.

Eastern Divisional Locomotive Running Superintendent at Waterloo. At the outbreak of the present war he was appointed Central Divisional Locomotive Running Superintendent, and continued in that capacity until May, 1942, when he was transferred to headquarters as Assistant to the Locomotive Running Superintendent.

Among the Sheriffs for the counties of England and Wales appointed for 1944 are Sir Patrick Ashley Cooper, a Member of the London Passenger Transport Board (County of London); and Mr. R. F. Summers, a Director of the London Midland & Scottish Railway Company (Flintshire).

Mr. T. H. Hollingsworth, District Goods Manager, Worcester, Great Western Railway, who, as recorded in our March 31 issue, has been appointed District Goods Manager, Bristol, as from May 11, joined the company in 1913. He served with the Forces from 1915 to 1919, and in 1923 was selected for special training under the General Manager's scheme. He afterwards served for a period at Aberdeen, and later in various departments of the Chief Goods Manager's Office. In 1932 he was transferred to the District Goods Manager's Office, Swansea; from July of that year until October, 1936, he served on the Staff Investigation Committee (Indoor & Outdoor Staff), of which he was Chairman

of the Allan Line in 1912. He was appointed in 1920 Chief Clerk with Canadian Pacific Steamships Limited, which took over the Allan Line. Two years later he became Passenger Agent for the C.P.R. at Antwerp. From then until 1928 Mr. Rawlinson was engaged in passenger business for the company on the Continent, and gained considerable knowledge of Continental affairs, languages and customs. He was recalled in 1928 to take charge of the company's Continental Passenger Department in London; and in 1934 he became General Passenger Agent, London. Mr. Rawlinson was appointed Assistant European Passenger Manager in 1937.

Sir Douglas Hewitt Hacking, M.P., has been elected a Director of the Bristol Tramways & Carriage Co. Ltd.

Mr. A. H. Wynn has been appointed a Director of the Cordoba Central Trust Limited. Mr. Wynn is on the boards of the Central Wagon Co. Ltd. and other companies.

Mr. B. H. Binder, a Director, has been appointed Chairman of the British Shareholders Trust Limited, in succession to the late Sir Follett Holt. Mr. Binder is a Director, among other companies, of the Argentine North Eastern Railway Co. Ltd., Entre Rios Railways Co. Ltd., Paraguay Central Railway Co. Ltd.

(Chairman) and Central Wagon Co. Ltd. (Chairman).

We regret to record the death on April 18, at the age of 78, of the Rt. Hon. the Earl of Mount Edgumbe, a Director of the Great Western Railway Company from 1923 to 1943.

Mr. L. S. Kinnear, Secretary of the British Oxygen Co. Ltd., has been appointed to a seat on the board.

Mr. F. H. Grosvenor is retiring at the end of this month from the position of Passenger Manager, Peninsular & Oriental Steam Navigation Company.

Sir George Nelson, Chairman & Managing Director of the English Electric Co. Ltd. and President of the Federation of British Industries, and Mr. H. FitzHerbert Wright, Chairman of the Butterley Co. Ltd., have been appointed members of the departmental committee, the terms of reference and membership of which were announced by the President of the Board of Education on April 5, to report on future collaboration between universities and technical colleges on higher technological education in relation to the needs of industry.

Sir Harold Hartley, who is a Director of the Gas Light & Coke Company, has been elected a Deputy-Governor of the company for the ensuing year. Sir Harold Hartley is a Vice-President of the L.M.S.R.

Mr. H. Evans, Assistant to the Traffic Manager (Operating), Great Northern Railway (Ireland), has been appointed District Superintendent, Omagh, as from May 1.

#### L.N.E.R. STAFF CHANGES

The L.N.E.R. announces the following staff changes:—

Mr. G. G. Goodings, District Goods & Passenger Manager, Ipswich, has been appointed Acting District Goods & Passenger Manager, Norwich.

Mr. E. A. Lees, District Engineer, Manchester, retired on March 31.

#### L.M.S.R. APPOINTMENTS

The L.M.S.R. announces the following appointments:—

Mr. J. Morgan, Stationmaster, Wigan, to be Stationmaster, Bolton (Trinity Street).

Mr. G. H. Rogers, Stationmaster, Watford Junction, also in charge of Watford (North), to be Stationmaster, Nottingham, *vice* Mr. J. Davies, retiring.

Mr. F. Shelley, Head Office Inspector (Freight Services), Office of Divisional Superintendent of Operation, Derby, to be Stationmaster, Watford Junction, also in charge of Watford (North).

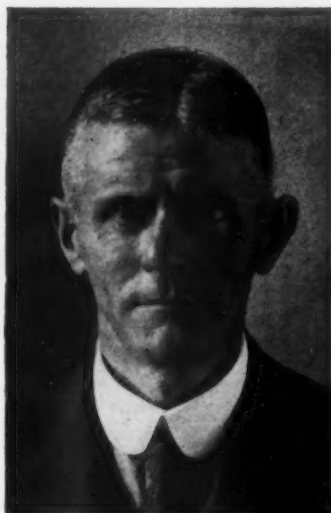
Mr. H. J. Jones, Stationmaster & Goods Agent, Whitchurch, to be Stationmaster & Yardmaster, Rose Grove, *vice* Mr. P. C. Steel, retiring.

Mr. J. F. Starbuck, Stationmaster & Goods Agent, Blackpool (South), to be Stationmaster & Goods Agent, Whitchurch.

Mr. A. Gass, Stationmaster & Goods Agent, Gourrock, to be Booking & Parcels Agent, Edinburgh (Princes Street), *vice* Mr. D. Dennis, retired.

Mr. R. B. Scott, Stationmaster, Goods Agent & Harbourmaster, Stranraer Harbour, to be Stationmaster & Goods Agent, Gourrock.

Mr. G. D. Fraser, for a number of years our correspondent in Argentina, whose death was recorded in our March 10



**The late Mr. G. D. Fraser**

For many years our correspondent in Argentina

issue, had been associated with the British-owned Argentine railways for more than thirty years, and at the time of his retirement in 1939 held a senior appointment in the Publicity Department of the Central Argentine Railway. Although of a somewhat retiring disposition, Mr. Fraser was a painstaking student of public affairs and had an exceptional grasp of the many varied and complicated aspects of Argentine railway activities. His ability in assessing the implications of political developments and their effect on the railway industry of the country made his contributions to our columns particularly valuable.

Mr. Charles Beaumont, Editor of the *Great Western Railway Magazine*, whose death was recorded in our April 7 issue, had held that position since February, 1944, before which he had been Acting Editor since June, 1942. He joined the G.W.R. in 1908 and for a number of



**The late Mr. Charles Beaumont**

Editor, *Great Western Railway Magazine*

years he was on the Publicity Staff of the Superintendent of the Line, and was engaged in part in the preparation of "Holiday Haunts." Mr. Beaumont sustained leg injuries from an explosive incendiary bomb while on duty as a Civil Defence Warden during an air raid on March 14. He was taken to hospital, where he remained until March 31; on returning home, he collapsed and died as he opened his front door. At the inquest held on April 4 a verdict of "death by enemy action" was recorded. His funeral service took place at the Church of St. Thomas the Apostle, Hanwell, and the interment in Streatham Park Cemetery, on April 8. In addition to family mourners there were present over fifty present or past members of the G.W.R. staff at Paddington, including Mr. G. E. Orton, Commercial Assistant to the Superintendent of the Line & Public Relations Officer; Major J. Dewar, Publicity Officer; and Mr. George Dyall, late Acting Publicity Officer.

We regret to record the death, at the age of 81, of Mr. J. B. Broad, formerly of the Mineral Manager's Office, Paddington, Great Western Railway.

Mr. H. H. Holbrook, formerly Assistant Stationmaster at Paddington, Great Western Railway, and Manager of the Liskeard & Looe Railway, has been elected President of the Tyrrell Hospital, Ilfracombe.

Mr. H. N. Sporborg, Chairman of the British Thomson-Houston Co. Ltd., has been elected a Director of the Lancashire Electric Light & Power Co. Ltd. and the Lancashire Electric Power Company, to fill the vacancies caused by the death of Mr. W. C. Lusk.

The Council of the Iron & Steel Institute has awarded the Bessemer Gold Medal for 1944 to Mr. Essington Lewis, Director-General of Munitions and Director-General of Aircraft Production for Australia. Mr. Lewis is a Director, among other companies, of Stewarts and Lloyds (Australia) Proprietary Limited.

#### INDIAN RAILWAY STAFF CHANGES

Mr. T. S. Sankara Aiyar, C.I.E., Financial Commissioner of Railways, has been granted leave preparatory to retirement.

Mr. Zahid Hussain, C.I.E., has been appointed Financial Commissioner of Railways.

Mr. V. L. Thompson has been appointed to officiate as Deputy General Manager, Personnel, B.A.R.

Rai Bahadur A. Bholanath has been appointed to officiate as Chief Commercial Manager, B.A.R.

Mr. C. A. K. Bradley has been appointed to officiate as Chief Mechanical Engineer, B.A.R.

Mr. E. W. Baker has been confirmed as Signal Engineer, B.A.R.

Major R. W. Godley has been appointed to officiate as Locomotive & Carriage Superintendent, B.B.C.I.R.

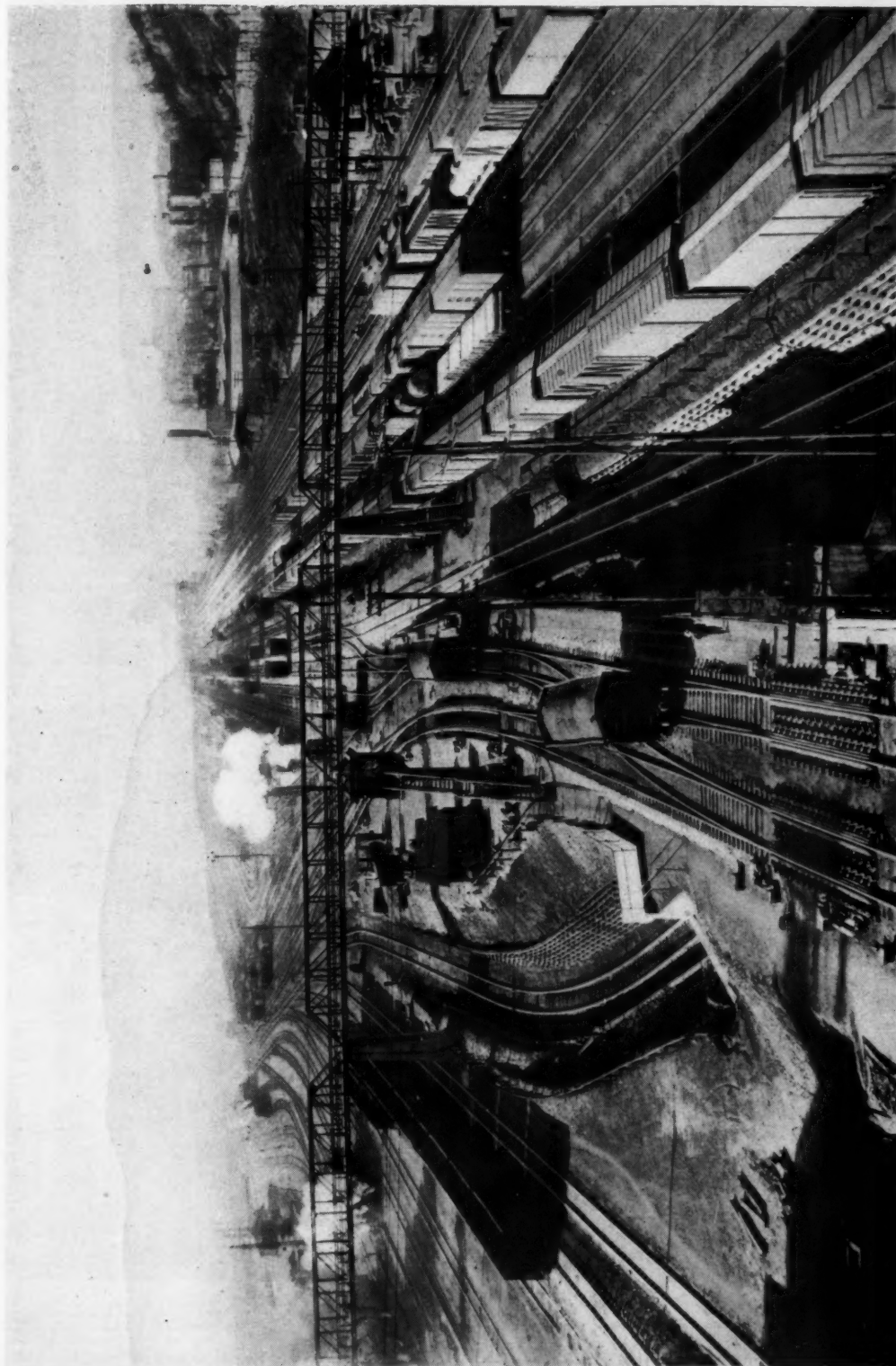
Mr. J. W. McWilliam has been appointed to officiate as Deputy Locomotive & Carriage Superintendent, B.B.C.I.R.

Mr. A. O. H. Morrison has been appointed Deputy Chief Engineer & Superintendent of Maintenance (East), B.N.R.

Major H. R. Payne, I.E., has been appointed to officiate as Deputy Controller of Stores, B.N.R.

Mr. W. M. McGregor, O.B.E., on re-transfer from the O.T.R., has resumed charge as Controller of Stores, N.W.R.





*View from hump in the freight terminal of the Norfolk & Western Railway, Portsmouth, Ohio*

*The policeman**The bus conductress**The railway motorman**The bus driver*

## A SERIES OF LONDON PASSENGER TRANSPORT BOARD POSTERS

(See reference on opposite page)



## TRANSPORT SERVICES AND THE WAR—238

### Civilian Air Raid Casualties in March

The Ministry of Home Security has announced the following figures of civilian casualties due to air raids in the United Kingdom during March :—

Killed (or missing believed killed) ... .. 279  
Injured and detained in hospital ... .. 633

The casualties are classified as follow :—

	Men	Women	Under 16
Killed (or missing believed killed) ... ..	125	116	38
Injured and detained in hospital... ..	325	261	47

### British Internal Air Lines

The summer timetables of the various railway-associated companies maintaining regular internal air services in Great Britain came into force on April 3. In every case the condition is imposed that all reservations are accepted on the understanding that they are liable to be cancelled on instructions from the Air Ministry, if accommodation is required for Government priority passengers. In such event, the ordinary passengers are off-loaded strictly in the reverse order of booking. The services are as follow :—

#### Railway Air Services Limited

Liverpool—Belfast. Thrice daily except Sundays.

Glasgow—Belfast. Thrice daily except Sundays.

#### West Coast Air Services Limited

Liverpool—Dublin. Twice daily except Sundays, in association with Aer Lingus Teoranta.

#### Isle of Man Air Services Limited

Liverpool—Isle of Man. Four times daily except Sundays.

#### Great Western & Southern Air Lines Limited

Lands End—Isles of Scilly (Saint Mary's Airport, Hughtown). Frequent weekday services, with two bus connections daily from Penzance Station.

It was announced in Dublin on April 14 that, in consequence, of British restrictions, air services between Dublin and Liverpool would be suspended after April 15 until further notice.

### London Transport Posters

A striking series of posters, drawn by Mr. Eric Kennington and containing verses by Mr. A. P. Herbert, has appeared recently at London Passenger Transport Board stations; the posters are portraits of a policeman, a bus driver, a woman bus conductor, and a railway motorman; further portraits, one of a woman porter and the other of a N.F.S. mobile driver, are to be issued later. Although typical of the many thousands of men and women in the public services, the subjects of the portraits are real persons who were employed in those London areas which suffered severely during the 1940-41 raids. At the foot of the posters, Mr. A. P. Herbert describes, in verse, the circumstances in which duties have been carried out in wartime, and each group of workers receives a tribute to the sense of duty and loyalty that they have shown to the fighting forces and those engaged in making munitions. These verses have been reproduced here after the comments on each of the persons appearing on the posters.

The policeman is Mr. John Woodage, who narrowly escaped when a high-explosive bomb fell some 15 ft. from his point of duty.

Thank you, policeman. What would London do  
Without her guides, and guardians, in blue?  
You keep the peace, your temper, and your wits,  
A dear by day, a bulwark in the blitz.

Half-way between a mother and a god,  
You rule the roaring traffic with a nod;  
But still have time and patience to explain  
The way to Number Ninety, Lambeth Lane.

More than us all, you show the British way,  
Strength without shouting, drill without display:  
Pinned to your post, and longing to be gone  
In different uniform—you carry on.

Mrs. Mary Morgan, a woman conductor, had two children on her bus when bombs

fell nearby. She pushed the children under a seat and comforted them by telling a story.

How proud upon your quarterdeck you stand  
Conductor—Captain—of the mighty bus!  
Like some Columbus you survey the Strand,  
A calm newcomer in a sea of fuss.

You may be tired—how cheerfully you clip,  
Clip in the dark, with one eye on the street—  
Two decks—one pair of legs—a rolling ship—  
Much on your mind—and fat men on your feet!

The sirens blow, and death is in the air:  
Still at her post the trusty Captain stands,  
And counts her change, and scampers up the stair,  
As brave a sailor as the King commands.

Motorman Frank Clarke was driving a train when a bomb demolished the station which he had just left; although suffering from shock, he helped passengers along the track to the next station.

Pilot, all alone you ride  
Through the bowels of the town,  
Up into the black outside  
Where the bombs are whistling down.

Bombs and blizzards, fogs and frights—  
"Dead man's handle" at your breast—  
Lights—and lights—for ever lights—  
On you ride and never rest.

On to Barking, on to Kew!  
Master of a trying trade,  
Seldom do we think of you,  
Never do we feel afraid.

The bus driver, Mr. Albert Coe, narrowly averted running into a huge crater when driving his bus through a heavy blitz.

Bus driver, bus driver, how bravely you steam,  
Like a very big ship in a very small stream—  
Every refuge a reel, every shadow a snare—  
But all are the same to a master of care.

Bus driver, we board you, a shivering queue,  
We're safe and snug now and forget about you:  
But on through the darkness you rumble alone,  
With no mate at your side and no eyes but your own.

Bus driver, bus driver, the sirens have gone:  
The bombs may come down, but the buses go on:  
Bus driver, I know you won't think me a snob  
If I whisper "Bus driver, I don't want your job."

### Women in Transport

Before the war the British railways and London Transport employed 26,000 women; their work was confined to comparatively few occupations. Today the railways have 114,000 women on their pay rolls, and under war-time conditions their activities have spread to many other spheres, as has been recorded from time to time in our columns. In London Transport workshops, garages, and depots some 3,500 women are employed, of whom 1,000 are doing semi-skilled work and more than 100 skilled work. At many of the garages, women are responsible for cleaning, washing, oiling, and greasing the buses. Women conductors have been in London Transport employ since July, 1940.

### London Transport Summer Timetables

The London Transport 1944 summer programme, which comes into effect during the period April 19 to 26, has been planned as in previous wartime years to provide first and foremost for the full requirements of war workers. Economies in rubber and fuel are still vitally necessary and, in non-industrial areas, the new programme will provide little more than a readjustment of peak and blackout services. In certain country districts, however, the services will represent some improvement by reason of the additional mileage authorised a few months ago to meet urgent shortages in industrial districts and the needs of shoppers.

Throughout the board's area road services will be maintained at peak hour strength for half-an-hour later in the evening (i.e., 7 p.m. instead of 6.30 p.m.). After this time, services will run at closer intervals than in the winter. Generally, no later facilities will be provided. The times of last vehicles will remain as at present—last

## NO RESTAURANT CARS

The Minister of War Transport has directed the Railways to withdraw all Restaurant Cars from 5th April, 1944, until further notice.

### RAILWAY EXECUTIVE COMMITTEE

#### R.E.C. poster announcement

buses, trams and trolleybuses leaving Central London at about 10 p.m., and the last Underground trains at about 12 midnight. In country districts, with a few exceptions, last buses will leave at about 9 p.m.

### Regulated Areas in Great Britain

The following new restrictions were placed on coastal areas (under two sets of byelaws made by the Secretary of State for War) on April 8 :—

#### I.—England, Wales, East Scotland, and part of Clyde Area

In England and Wales, (i) to a coastal strip extending from Hornsea in Yorkshire to Lands End, including the Isle of Wight and nearly coinciding from the Wash to Lands End with the recently announced Protected Areas to which visits are restricted; and (ii) to a coastal strip along the whole of the south coast of Wales and round the Bristol Channel as far as Portishead.

In Scotland, (a) to a coastal strip from Caithness to East Lothian, including the areas on each side of the Tay and Forth Estuaries and the new Protected Areas on the Firth of Forth; and (b) to areas on the Clyde from Helensburgh to Clydebank on the north, and from Inchinnan to Saltcoats on the south.

In these areas, which are known as Regulated Areas, all persons over 16 years of age must carry their identity cards and produce them on demand to any constable or to any member of our own or of any Allied Forces on duty.

In the Protected Areas between the Wash and Lands End and in the Protected Areas on the Firth of Forth they must also produce their identity cards when registering at a hotel or lodging house and must at the same time complete the whole of Registration Form AR-E.

Only persons belonging to certain exempted classes (such as the Royal Observer corps, Raid Spotters, and the crews of ships) may use binoculars or telescopes within the Regulated Areas without a special permit, when their duty requires it. The use of cameras continues to be governed by the Control of Photography Orders.

#### II.—West and North Coasts of Scotland

The other set of byelaws imposes new security arrangements in the Regulated Areas covering the coastal belt from Helensburgh round the west and north coasts of Scotland to Latheron, Caithness, embracing the counties of Bute and Argyll and the Outer and Inner Hebrides (but excluding the Orkneys and Shetlands). This set of byelaws includes the same restrictions as for the Regulated Areas mentioned above, and, in addition, imposes the following further restrictions: (i) No one except persons in certain exempted classes (such



Special booking office, with ticket-issuing machines, in an R.A.F. camp three miles from the railway, provided to avoid congestion and delay at the small booking office of the nearest station

as local authority or public utility employees on duty) may camp out or sleep in any hut or vehicle in these areas without permission from the military authorities; and (ii) in certain parts of the Areas the military authorities may give written notice to householders and hotels, etc., that for certain periods no visitors will be allowed to stay overnight in the private premises or hotels, etc., to which a notice has been given without special permission.

Since these new byelaws came into force on April 8, the military authorities have no longer required persons to obtain permits beforehand to visit the former Protected Areas in the West Highlands or the Hebrides, and these Areas formally ceased to be Protected Areas on that date. Visitors are warned that the special restrictions on visitors to hotels, etc., may have to be imposed at short notice, and they would be well advised not to embark upon any visit without making previous enquiries of the hotel or person that they propose to visit.

There is no change in the arrangements applying to the Orkneys and Shetlands which still form a Protected Area, for which a special military permit continues to be required.

In all the Areas mentioned above the military authorities may place special restrictions from time to time on access to particular places within the Areas. The War Office states that notice of these restrictions may be short, and only local publicity will be given.

#### London Ticket Colours

The colours of return tickets issued on London Transport Country Buses were changed on Monday, March 27. The 6d. returns, previously salmon colour, are brown; 7d. returns, formerly grey, are lilac; 8d. returns, heretofore buff, are yellow; and 9d. returns, until now brown, are buff. The reason for the change is that the colour of wartime pulp turns slowly from white to grey, a phenomenon noticed in the last war. This is apt to cause complications, and a careful review has been made of the values between which confusion may arise, with the result that more distinctive shades have been selected.

Single tickets were previously available in the new colours.

#### Railway Cuts in Eire

On the evening of April 14 the Great Southern Railways Company announced a severe curtailment of its train services. From Monday next, April 24, passenger trains connecting Dublin with the provinces will run only twice a week, and goods trains will be worked on four days every week. There will also be restrictions on passenger travel, and a system of priority for goods will be instituted. The services of the Great Northern Railway are not affected.

#### Reichsbahn Mothers' Training Centre

A Reichsbahn-owned mothers' training centre has recently been opened at Leipzig for female railway workers who, as a result of their service hours, are unable to attend the mothers' training centres of the Deutsche Frauenwerk (German Women Welfare Organisation). Nursing and household duties are the principal subjects taught.

#### "South-Eastern" Through Goods Rates Discontinued

To foster trading between Italy on the one hand, and Serbia, Greece, and Bulgaria on the other, the Italian State Railways had introduced special through rates known as "South-Eastern Through Rates." As a result of changed political and economic conditions in all the countries concerned, these rates were discontinued as from November 14, 1943.

#### Voluntary Conductors in Lübeck

Reports from German sources state that the Lübeck municipally-owned trams and buses, recently faced with the necessity of reducing their services because the staff of conductors was so greatly depleted, appealed to the public for voluntary workers prepared to serve as emergency conductors. In response, 250 persons, of whom about 50 per cent. were women, are stated to have reported for duty. The voluntary conductors, many of whom are employed in war industries, are serving mainly in the evenings and on Sundays.

#### Bucharest Tram Fare Increases

Fares on the Bucharest trams were increased by an average of 33 per cent. on January 11, to meet increased working expenses and capital outlay incurred in extending the tram system because of the curtailment of bus services. The length of the Bucharest tram system was 46½ miles at the end of 1933, 74½ miles at the end of 1940, 78 miles at the end of 1942, and 89 miles at the end of 1943. There were 604 tram cars in Bucharest at the end of 1939; the fleet had risen to 841 vehicles by the end of 1943.

#### Bulgarian Road Links

Further State-operated road motor services, additional to those mentioned in our issue of September 17, 1943 (page 289), have been organised in Bulgaria, mainly in regions poorly served by railways, such as southern Dobrudja. There the principal road motor service recently instituted is between Dobritch (known as Bazaric under the Roumanian régime) and Silistra, a frontier town on the Danube with no railway connection. The road distance is about 62 miles. Formerly, the Roumanian State Railways worked a bus service between these points. Another service now operating in this region connects Varna with the port of Baltchik (to the north of Varna), Kavarna, Shabla, and Blatic, a distance of 66 miles; this may be termed an "overland coastal service." Under the

Roumanian régime, Baltchik was the southernmost place served by a road motor line connecting Constanza with Mangalia (a Black Sea resort), Shabla, and Kavarna. From Baltchik the line turned inland to Bazaric.

#### Intensive Traffic in the Belgian Congo

Some indication of the intensive activity in the Belgian Congo during 1942 is provided by the recently-issued figures which show that the volume of goods traffic handled on the Matadi-Leopoldville Railway totalled 853,809 metric tons in 1942, compared with 432,572 metric tons in the preceding year, an increase of about 60 per cent.

#### Free China Railways

In 1943 the railways of Free China carried a total of 15,000,000 passengers and 2,300,000 tons of goods. These figures do not include the transport of troops and military supplies, and materials and equipment for the railways themselves. The cost of rail transport is kept as low as possible; the fare for a passenger is 98.4 cents a mile in Chinese currency, and the mileage rate for freight is Ch\$1.60 a ton.

#### More Rigid Standards for U.S.A. Rail Abandonments

A Bill has been introduced into the United States Congress by Senator Reed, Republican member for Kansas, to establish more rigid standards for the Interstate Commerce Commission when proposed railway abandonment schemes are under consideration. In 1942 the closing down of unremunerative lines was accelerated by the requisitioning by the War Production Board of track materials for war purposes, a method which by agreement with the railways concerned, short-circuited the normal I.C.C. closure procedure, and in that year abandonments reached the record total of 2,516 miles. Strong action by the Office of Defense Transportation and the Interstate Commerce Commission, to defeat these high-handed methods—especially in view of the changed conditions on the roads brought about by tyre and petrol shortage—resulted in a sharp drop in abandonments to 1,096 miles in 1943. Another reason for the reduction has been the insistence of the I.C.C. on compensation for displaced employees when lines are closed down. The Railway Labour Executives Association, which supports Senator Reed's Bill, wishes to add a stipulation to the Bill that no abandonment shall be permitted unless compensation is paid for four years from the date of closure.

#### C.P.R. Transport Restrictions

The report of the Canadian Pacific Railway Company for the year 1943 states that the record volume of traffic moving necessitated the imposition of further limitations on passenger service by the Transport Controller. Parlour-car service was suspended between Ottawa, Montreal, and Toronto, and restrictions were placed on the number of sleeping cars, of extra passenger trains, and of extra sections of regular passenger trains. Effective April 15, 1943, he also directed Canadian railways to cease selling reduced fares for public holidays and for week-end travel. An Order curtailing train service to summer resorts was followed shortly afterwards by the suspension of all tourist excursion fares. In the interest of greater utilisation of freight cars and other transport facilities, and of expediting the movement of freight traffic, the Transport Controller also issued Orders requiring the loading of freight cars to their maximum capacity and prescribing minimum weight loads for specific commodities.



## War Transport in Persia

By reason of its peculiar topographical situation, Persia (or Iran) has been off the world trade routes for many years, and virtually isolated. It came into some prominence at the time the Trans-Persian Railway was built, but chief interest is attached to developments since the outbreak of war. The Trans-Persian Railway was formally opened throughout on August 26, 1938, but, although this represented the culmination of 10 years of work, and the expenditure of some £30,000,000, it was regarded as only stage one of the railway development.

The next step was the beginning of work in 1938 on the Teheran-Tabriz Railway, via Kazvin, Zinjan, Mianeh, and Maragheh, which is destined to link Central Persia with the railway system of the U.S.S.R., and subsequently Turkey. The first 90 miles of this standard-gauge railway, from Teheran to Kazvin, were officially opened for traffic in March, 1940, and by the end of April a press message indicated that the first 112 miles of the line had been completed. Passenger trains began a regular service over the Teheran-Kazvin section on July 8 of the same year, and by that time the railroad had reached a point known as Khurramdareh, 227 km. (141 miles) from Teheran. The whole 315 km. (196 miles) from Teheran to Zinjan was opened on October 4, 1940, and work was continued on the remainder of the line up to Tabriz until September, 1941, when the Allied Forces took over the control of the Persian Railways for the duration of the war. Since then, only the section from Zinjan to Mianeh, 439 km. (273 miles) from Teheran, has been completed; this was opened for goods traffic in 1943. Work on the remainder has been suspended.

### THE GARMSAR-MESHED LINE

From Garmsar Station (near Qishlaq) on the Trans-Persian Railway, situated 114 km. (71 miles) to the east of Teheran, work was begun in 1938 on a line linking Teheran with Meshed, via Semnan, Damghan, Shahrud and Nishapur. The section from Garmsar to Shahrud, 315 km. (196 miles), was opened in May, 1941. On the remaining portion thence to Meshed work was continued until September, 1941, when it was suspended.

### THE QUM-ZAHIDAN LINE

The Qum-Zahidan (Duzdap) line, when completed, will be of very great importance as a trunk line linking Europe and Turkey on one hand, through Persia, with India on the other hand. From the city of Qum on the Trans-Persian Railway, situated 180 km. (112 miles) to the south of Teheran, the line runs through Kashan, Yazd, Karman, and Bam, to Zahidan. The last-named place, which is 92 km. (57 miles) west of the Baluchistan frontier, is the terminus of an Indian broad gauge (5 ft. 6 in.) railway, completed in 1919 and running from Quetta to the west, which crosses the Persian frontier at Mirjawa. On the Qum-Yazd section, 475 k.m. (295 miles) long, work was begun in 1938, but was stopped in 1941. On this section all earthwork is practically completed, as well as structures and buildings, but there has been no track-laying.

### THE AZARBAYJAN RAILWAY

The Azarbayjan Railway, of 1:524 metre (5 ft.) gauge, extends from Tabriz to Julfa, a distance of 147 km. (91 miles), meeting the Caucasian Railways at the Soviet frontier. There is also a branch line of 53 km. (33 miles) long, diverging at Sofian, 31 km. (19 miles) north of

Tabriz, and terminating at Sharif-Khaneh, a port on the northern shore of Lake Rezayeh. Thus, the total length of the Azarbayjan Railway is 200 km. (124 miles). This railway administration also manages the shipping on Lake Rezayeh. In 1941 survey work was completed for a standard-gauge railway to link Tabriz with the Turkish railway system by a line running from Sharif Khaneh, via Khoi and Qutur, to the Turkish frontier at Razi, where it is to join Turkish railways.

### THE AHWAZ-KHORRAMSHAHR LINE

In order to connect the important port of Khorramshahr (on the northern bank of the Shat-al-Arab) with the Trans-Persian Railway at Ahwaz, work was begun in November, 1941, on a standard-gauge railway to link these two places. Because of the flat ground, necessitating only easy earthworks, the line was completed in a short time and opened in June, 1942. Its length is 121 km. (75 miles) with more than 3 km. (2 miles) from Khorramshahr Station to the jetty. Later, a branch was completed from Hosseinieh, 81 km. (50 miles) from Ahwaz, running across the Persian frontier to Cheybassi on the northern bank of the Shat-al-Arab, just opposite Basra. This branch is 43 km. (27 miles) long, of which 19 km. (12 miles) are on Persian territory; so far it is open only to Allied freight traffic.

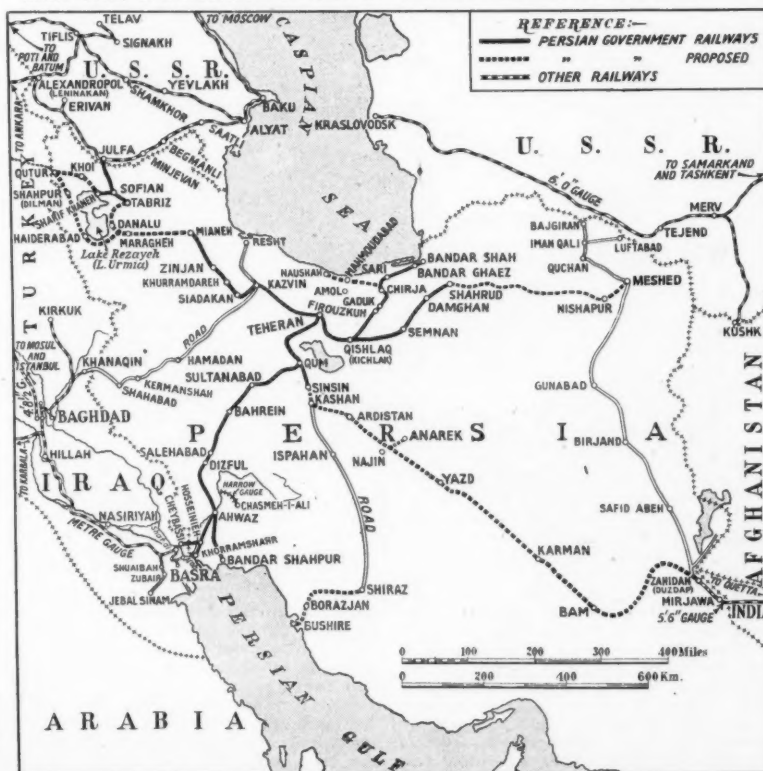
### ROLLING STOCK

The standard-gauge locomotives and rolling stock in 1941 comprised the following: 117 locomotives; 1,906 goods wagons; 59 passenger carriages; 3 special saloon coaches for H.I. Majesty the Shah; 1 pullman coach; and 1 inspection coach. The rolling stock of the 5-ft. gauge Azarbayjan Railway was: 15 locomotives; 228 goods wagons; 9 passenger carriages. Since 1941, a considerable increase in

the rolling stock has been brought into use on the Persian railways by the Allied Forces, but no recent official figures can be given. An officer in the Transportation Directorate under Brigadier Sir Godfrey Rhodes, who took over control of the railways in September, 1941, has stated that the then-existing locomotives were of modern design, all oil-fired, and that about 80 were effective for service. During the 20 months of British management, some 145 standard L.M.S.R. 2-8-0 engines were imported from England, and some hundreds of wagons from England and India.

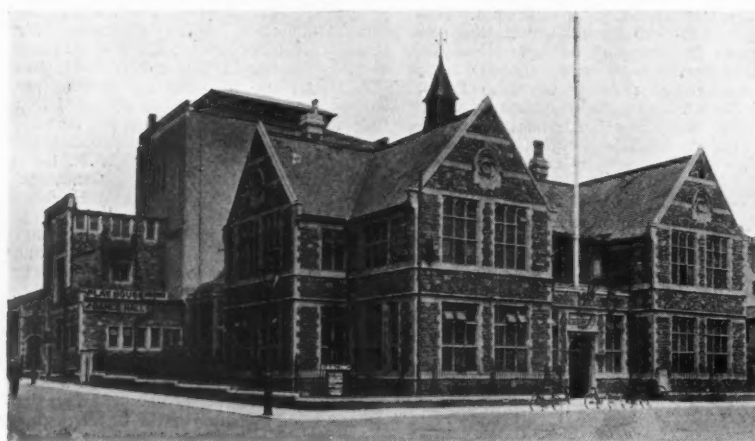
The main locomotive and carriage wagon repair shops were at Teheran, and there were subsidiary ones on the Northern and Southern divisions. The machinery was chiefly of German make, and new. At Teheran there was also an up-to-date power house, with independent diesel engines driving generators, and a central heating plant with a battery of Babcock & Wilcox boilers for the shops and station offices. The exhaust of the diesel engines was used to heat water, led about 400 yd. to the locomotive shed, for washing out running locomotives. The rearrangement and augmentation of facilities was an enormous task, of which the British Empire personnel may take just pride.

The Russians afterwards took over control of the Northern Division of the railway, and in January, 1943, the Americans replaced the British Forces in the working and maintenance of the railway and other transport. British work in lengthening loops; providing new loops; opening additional stations; shortening block sections; installing marshalling yards introducing a control system; and importing, unloading, and erecting locomotives and rolling stock; provided the solid basis for a remarkable achievement in conveying enormous material aid to Russia.



The railways of Persia and adjacent territories

## G.W.R. Mechanics' Institution, Swindon



For 100 years, as we briefly recorded in our October 15, 1943, issue, the G.W.R. Mechanics' Institution at Swindon, which was inaugurated under the presidency of Daniel Gooch, has played a prominent part in the life of the railway population of Swindon, and also in the educational and social life of the whole community of the borough. Primarily, the institution was intended to provide a technical library and reading room, but educational classes and lectures were added to the work, and for a great number of years these were an essential feature of the institution. As far back as the 1887-88 session, no fewer than 480 students were receiving instruction there. Various classes continued under the control of the institution until 1891, when a local Technical Education Council was set up under the State arrangements, and management of the classes was thereafter transferred to that body.

At the central building, which forms the subject of the illustration at the head of this article, there is today a lending library comprising approximately 27,000 volumes arranged in the open access system, and a



*The central reading room*

reference library of 6,000 volumes. During 1942, the total borrowings amounted to 254,428 volumes. Reading and smoke rooms are available, and also rooms for billiards and chess, with provision for other games. After the large hall was destroyed by fire in 1930, this portion of the institution was reconstructed as a playhouse, with seating accommodation for 700 persons. The stage is one of the largest in the West of England, and beneath it there is a fine dance hall. Two branches of the institution have been opened to serve outlying districts at Roddourne and Gorse Hill, and each has a collection of more than 2,000 books, as well as reading and recreation rooms.

**WELSH HIGHLAND LIGHT RAILWAY.**—The liquidator appointed by the Court in the winding-up of the Welsh Highland Railway (Light Railway) Company is Mr. Alwynne Aubrey Thomas (with a committee of inspection). The liquidator's address is Midland Bank Chambers, Llandudno, North Wales. The registered office is at Wellington House, Buckingham Gate, S.W.1.

## Weston, Clevedon & Portishead Light Railway

Once again the affairs of the Weston, Clevedon & Portishead Light Railway have come into the news, although, on this occasion, it is the ownership of the land rather than the undertaking of a railway which is in question. It may be recalled that this undertaking was not one of those included in the Railway Control Order of September 1, 1939, under which the Minister of Transport took control of the main railway systems of Great Britain. For some months after the outbreak of war the railway continued to be worked independently, and then a notification was given locally that all classes of traffic would cease to be carried after May 18, 1940.

Later, in that year the interest of the principal creditor in the W.C. & P.R. was acquired by the Great Western Railway, including the right to take possession of the line, and the latter company took over the whole of the locomotive and passenger stock, as we recorded at pages 585-6 of our issue of December 6, 1940. The rails, etc., were subsequently requisitioned by the Government, and, as the G.W.R. had acquired

only the interests of the Excess Insurance Company and had not assumed the rights or liabilities of the light railway company, and was therefore not interested in the ownership of the land, difficulties have arisen in connection with wayleave payments and rentals under licences or tenancies granted by the light railway company or the Receiver.

Recently, the position in relation to the ownership of the land has been before the Clevedon Urban District Council, and Mr. H. B. Hanson, the Clerk of the Council, reported in January of the present year, as a result of his inquiries, that it appeared that in 1909 the Excess Insurance Company bought the right to recover certain sums of money due from the light railway company, and, on non-payment, secured the appointment of a Receiver in respect of the undertaking and assets of the company. Successive Receivers were responsible for working the light railway and for its control and management until all debts had been paid. As the result of a Court Order, the Receiver was discharged during 1940.

According to Mr. Hanson's report, it

would appear that the position is that the lands, or the greater part of them, are still vested in the statutory company, but that the company has in fact ceased to exist, as there are neither directors, shareholders, officers, nor a Common Seal, and, as far as can be seen, there is no authority or person who is entitled to dispose of the property legally vested in the statutory company, unless it should prove worth while for some steps to be taken for the abandonment of the undertaking and the winding up of the company; it does not appear to be in the interests of any person to do that.

On the strength of this report, the Clevedon Urban District Council agreed to make application to the Ministry of Health for the compulsory acquisition of a site off Station Road, and, with regard to other W.C. & P.R. land in the Urban District, to draw the attention of the Somerset County Council to the matter.

It may be added that the railway company was incorporated by Act of August 6, 1885, and the 8½-mile section between Weston and Clevedon was opened on December 1, 1897. It became a light railway in 1899. The 6-mile extension from Clevedon to Portishead was opened on September 1, 1907.



## Staff and Labour Matters

### Railway Wages

A further meeting between representatives of the Railway Executive Committee and representatives of the National Union of Railwaymen, the Associated Society of Locomotive Engineers & Firemen, and the Railway Clerks Association, was held in London on April 6, in connection with the claims of the trade unions for an increase of 12s. a week in the existing war advance and for 12 days holiday to be granted to the wages staff each year. The official announcement issued at the close of the meeting stated that, after discussion, a further meeting was arranged.

The Railway Shopmen's National Council also held a further meeting in London on April 6, to consider the claims of the employees' side for an increase of 12s. in the existing war advance and 12 days holiday each year for railway workshop staff. At the close of the meeting an official announcement stated that, after discussion, a further meeting of the council was arranged.

### Engineering Employees Wages

At a meeting held in London on April 5, Sir Alexander Ramsay gave the reply of the Engineering Employers' Federation to the claim of the Engineering Joint Trades Movement which represents all the unions in the industry, for an increase of 10s. a week on base rates for all timeworkers and pieceworkers in the engineering industry.

Sir Alexander informed the trade unions that the employers could not agree to the claim and he gave a detailed reply to their submissions. The trade unions intimated that they were taking immediate steps to have their claim referred to the National Arbitration Tribunal for a decision.

### Shipyards Employees Wages

By an award of the National Arbitration Tribunal, shipyard employees are to receive an increase of 4s. a week as from the beginning of the first full pay period after March 30. The claim of the unions was for a general advance of wages.

### Road Haulage Wages

At a meeting on March 23, 1944, the Road Haulage Central Wages Board decided to request the Minister of Labour & National Service to make an order giving effect to the Board's proposals (set out in the Board's notice R.H. (15)) for the amendment of the existing Road Haulage Wages Order governing the statutory remuneration of road haulage employees falling within the scope of the Board. This decision was reached after the Board had considered the reports from Area Wages Boards on the proposals and the objections which had been lodged against the proposals. The Board proposes that the statutory remuneration be increased by 2s. 6d. a week, except in the case of certain classes of employees under 18 years of age, for whom the increase proposed is

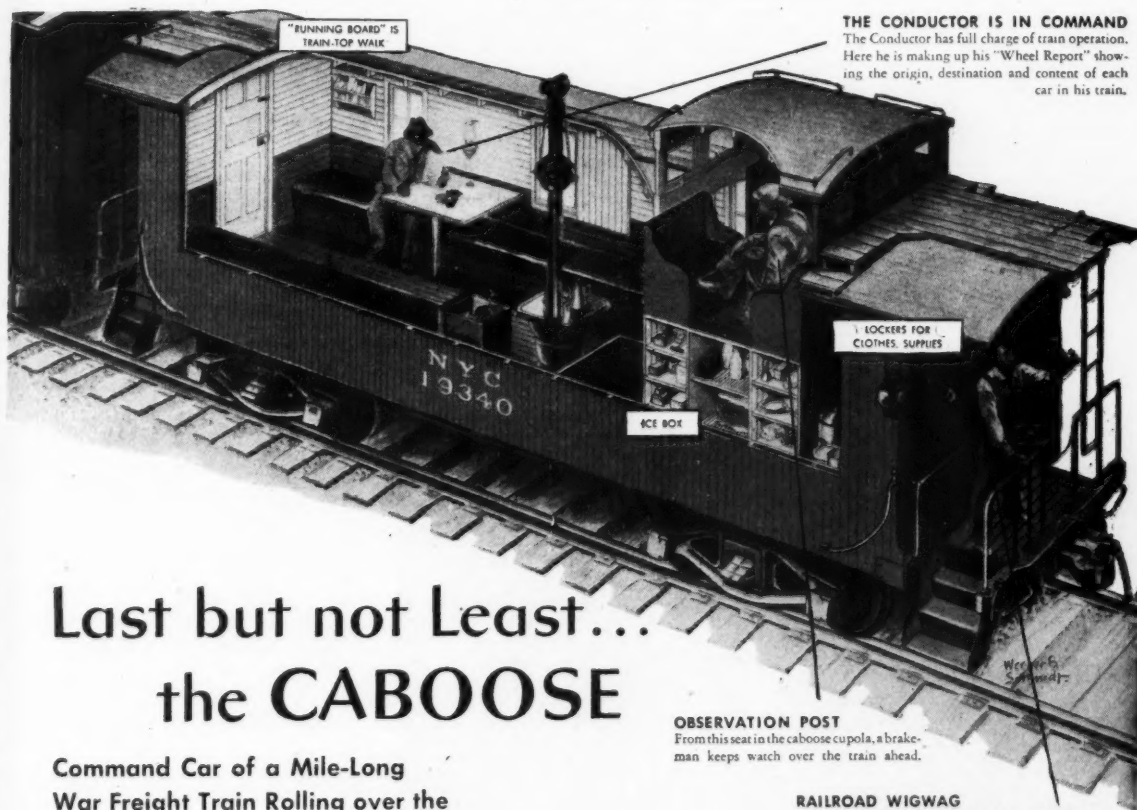
2s. a week. The Board also proposes that the existing overtime rates of time-and-an eighth and time-and-a-quarter be increased to time-and-a-quarter and time-and-a-half respectively. The proposed amendments will not come into force unless and until the Minister of Labour & National Service has made an order confirming them, and due notice will be given if such an order is made.

## Forthcoming Meetings

April 28 (Fri.).—Institution of Mechanical Engineers, Storey's Gate, London, S.W.1, 5.30 p.m. "The application of fabricated construction to machine design," by F. Koenigsberger. General meeting.

May 2 (Tues.).—Institution of Civil Engineers, Great George Street, Westminster, London, S.W.1, 5.30 p.m. "The strength of cast-iron girder bridges," by C. S. Chetty, and Norman Davey. Ordinary Meeting.

May 16 (Tues.).—Institution of Civil Engineers, Great George Street, Westminster, London, S.W.1, 5.30 p.m. "Stresses in concrete sleeper track," by F. Johansen, and "Experiments on concrete sleepers," by F. G. Thomas. Railway Engineering Division meeting.



### THE CONDUCTOR IS IN COMMAND

The Conductor has full charge of train operation. Here he is making up his "Wheel Report" showing the origin, destination and content of each car in his train.

### OBSERVATION POST

From this seat in the caboose cupola, a brakeman keeps watch over the train ahead.

### RAILROAD WIGWAG

At stations and towers, and on passing trains, the men on duty watch each train, and signal to the train crew if anything needs attention. The rear brakeman receives and acknowledges these signals. A raised arm, like this, means, "All okay."

## Last but not Least... the CABOOSE

Command Car of a Mile-Long  
War Freight Train Rolling over the  
Water Level Route

An interesting advertisement issued by the New York Central System

## Notes and News

**L.N.E.R. Silloth Dock Charges.**—The Minister of War Transport on March 29, 1944, made The London & North Eastern Railway—Silloth Dock—(Increase of Charges) Order, 1944.

**L.N.E.R. New Canteen in Glasgow.**—Mr. R. P. Critchley, District Locomotive Superintendent, Glasgow, L.N.E.R., opened on April 5 a new canteen at the Eastfield Locomotive depot, Glasgow. The canteen, which accommodates 48 diners, provides a 24 hours' service for nearly 1,000 employees. The number of staff canteens on the L.N.E.R. system is now 59, which serve over 864,700 meals a month.

**Institute of Transport.**—The President of the Institute of Transport, Sir William Wood, visited the Yorkshire Section of the Institute on March 31, when he attended and addressed a meeting at Leeds. Mr. R. H. Hunt, Chairman of the Section, presided. Sir William Wood's address was confined to a survey of certain post-war problems, particularly the need to promote the country's export trade. He stressed the importance of education in the transport field and of methods of selecting leaders in the industry. On the motion of Major F. S. Eastwood, North Eastern Regional Transport Commissioner, a cordial vote of thanks was tendered to Sir William Wood for his visit.

**Henry Spurrier Memorial Scholarship and Grants.**—The closing date for the receipt of applications for the 1944 scholarship and grants offered for award by the Institute of Transport under the Henry Spurrier Memorial Trust is May 31. The scholarship, not exceeding £150 in value, is available to assist in meeting expenses for travel for the study of road transport, research in or in connection with road transport, or full-time study at a university or other approved educational institution. At least twelve grants, not exceeding £15 each, are available to assist part-time students in the purchase of books and instruments, payment of educational fees, and travel or other expenses for approved educational purposes connected with road transport. Particulars and

application forms may be had from the Institute of Transport, 15, Savoy Street, London, W.C.2.

**Parachute Rations for Stranded Train.**—On March 29 the R.A.F. dropped rations by parachute to a train stranded in the middle of the Sinia desert. The worst sandstorm for many years, on the night of March 27, covered the railway tracks to a depth of 3½ ft.

**Metropolitan Graduate & Student Society.**—Members of the Metropolitan Graduate & Student Society, Institute of Transport, recently visited the L.M.S.R. Control Office and Locomotive Running Shed at Willesden. The party was accompanied by Mr. A. L. Castleman, a former Member of Council (District Goods Manager, Broad Street, L.M.S.R.), and the visitors were received and conducted by the District Controller and the District Locomotive Superintendent.

**Cammell Laird & Co. Ltd.**—It is shown in the report for the year 1943 that the net profit, after providing for depreciation, debenture stock interest and sinking fund, taxation, contingencies (£50,000), and other charges, amounted to £199,292 (£192,122), and £105,983 was brought forward, making £305,275. The final dividend on the ordinary stock is 6 per cent. less tax, making 10 per cent., less tax, for the year (same). A sum of £100,000 (same) is appropriated to general reserve, and £116,525 is carried forward.

**L.N.E.R. Trailer Pump Competition.**—On Saturday, April 15, the final contests in the L.N.E.R. (Southern Area) Trailer Pump Competition were held at Marylebone goods yard. Of the 91 original teams which entered the competition, 38 succeeded in the eliminating ties. There were 12 teams, each of five men, in the heavy class, and 26 teams of four men in the light class. Each team had to run its trailer pump to the water supply position, connect the hoses, train the jet of water onto and knock over a hinged flap target some 30 ft. distant from the end of the hose; after this the emptied hoses and other accessories were returned to the trailer, which was then run to a finishing line. In the heavy class, Ardwick East Goods,

with an actual time of 1 min. 37½ sec., penalised of ¾ sec. for a fault, making an aggregate 1 min. 40½ sec., was the winner. Stratford C.M.E., with a time of 1 min. 41 sec., without fault, was beaten only by ½ sec. The final in the light class was won by Leicester (Braunston Gate) Goods, which repeated the success of last year. The time was 1 min. 24 sec., some 15½ sec. better than last year. Holloway R.M.E. (Team No. 1) was placed second with a time of 1 min. 26½ sec. Mr. George Mills,

## British and Irish Railway Stocks and Shares

Stocks	Highest 1943	Lowest 1943	Prices	
			April 18, 1944	Rise/ Fall
G.W.R.				
Cons. Ord. ....	65½	57½	59½	—
5% Cons. Pref. ....	120½	108	117	+ 1
5% Red. Pref. (1950) ..	111½	106	108	—
5% Rt. Charge .....	137½	123½	129½	—
5% Cons. Guar. ....	135½	121½	127½	—
4% Deb. ....	118	107½	113½	+ ½
4½% Deb. ....	119	109½	114½	—
4½% Deb. ....	124½	116	120½	—
5% Deb. ....	138	127	131½	—
2½% Deb. ....	77	72½	74½	—
L.M.S.R.				
Ord. ....	34½	28	30½	—
4% Pref. (1923) ....	66½	58	59½	+ ½
4% Pref. ....	80½	73	77	+ ½
5% Red. Pref. (1955) ..	105½	102	104½	—
4% Guar. ....	107	98½	101½	—
4% Deb. ....	109½	103½	105½	—
5% Red. Deb. (1952) ..	111½	108	110½	+ 1
L.N.E.R.				
5% Pref. Ord. ....	12½	7½	9	—
Def. Ord. ....	5½	3½	4½	—
4% First Pref. ....	66½	57½	59½	—
4% Second Pref. ....	36½	30½	32½	—
5% Red. Pref. (1955) ..	99½	93	100½	—
4% First Guar. ....	102½	94	98	—
4% Second Guar. ....	93½	85½	89½	—
3% Deb. ....	86½	78½	82½	+ ½
4% Deb. ....	109½	101½	104½	—
5% Red. Deb. (1947) ..	106½	102	103	—
4½% Sinking Fund Red. Deb. ....	108	103½	104½	—
SOUTHERN				
Pref. Ord. ....	80	72½	77	+ 1
Def. Ord. ....	26½	20½	24½	+ ½
5% Pref. ....	119½	106½	115½	+ ½
5% Red. Pref. (1964) ..	114	108½	113½	—
5% Guar. Pref. ....	136	122	127½	+ 1
5% Red. Guar. Pref. (1957) ....	117	109½	113½	—
4% Deb. ....	117½	106	111	—
5% Deb. ....	137	126	130½	—
4% Red. Deb. (1962- 67) ....	112	106½	110½	+ 1
4% Red. Deb. (1970- 80) ....	112	107	110½	—
FORTH BRIDGE				
4% Deb. ....	109	104½	105	—
4% Guar. ....	105	102½	103½	—
L.P.T.B.				
4½% "A" ....	125½	114	121½	—
5% "A" ....	133½	123	130½	—
3% Guar. (1967-72) ..	100½	97	99	—
5% "B" ....	124	114	119½	—
5% "C" ....	72	53	71	—
MERSEY				
Ord. ....	34½	27	33½	—
3% Perp. Pref. ....	68	59½	69	—
4% Perp. Deb. ....	104	102½	103	—
3% Perp. Deb. ....	83	78½	79	—
IRELAND BELFAST & C.D.				
Ord. ....	9	6	6½	—
G. NORTHERN				
Ord. ....	24½	16	21½	—
Pref. ....	—	—	39½	+ ½
Guar. ....	—	—	61½	—
Deb. ....	—	—	85½	+ ½
G. SOUTHERN				
Ord. ....	30	9½	47	— 2
Pref. ....	30	11	47½	— ½
Guar. ....	64	26½	63½	— ½
Deb. ....	68½	51½	90	—

§ ex-dividend



Field Marshal Sir Philip Chetwode handing over to representatives of the War Office a Red Cross train at Hassocks, Sussex. It is one of four provided by the railway companies which are being equipped and maintained by the War Organization of the British Red Cross Society & the Order of St. John of Jerusalem

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## OFFICIAL NOTICES

## OFFICIAL ADVERTISEMENTS

OFFICIAL ADVERTISEMENTS intended for insertion on this page should be sent in as early in the week as possible. The latest time for receiving official advertisements for this page for the current week's issue is 9.30 a.m. on the preceding Monday. All advertisements should be addressed to:—*The Railway Gazette*, 33, Tothill Street, Westminster, London, S.W.1.

Divisional General Manager (Southern Area) presented prizes and certificates. The timekeepers and judges were officers of the N.F.S. and the chief adjudicator was Mr. G. B. Barton, Engineer (London).

**The Mersey Tunnel.**—A proposal is being sponsored by the Birkenhead Town Council that the Mersey road tunnel should be freed from toll for the benefit of the trade of Merseyside. The Town Clerk and City Treasurer of Liverpool are preparing a detailed report on the subject at the request of the Tunnel Joint Committee.

**South Indian Railway Co. Ltd.**—At an extraordinary general meeting of this company held at Winchester House, Old Broad Street, E.C.2, on Tuesday, April 4, the following resolution was duly passed as a special resolution: "That the company be wound up voluntarily and that Sir Ernest Albert Seymour Bell, C.I.E., of 42, Fairacres, Roehampton Lane, London, S.W.15, and Charles Alexander Muirhead, C.I.E., of York House Hotel, The Avenue, Minehead, Somerset, be and they are hereby appointed liquidators for the purposes of such winding up and that their remuneration be fixed at £3,000."

**Bengal & North Western Railway Co. Ltd.**—The liquidators announce that a further payment of £1,000,000 on account of the purchase price of the railway received from the Secretary of State for India, together with the undistributed balance remaining from the first payment, enables them to make a second distribution of £2 per £100 of stock. This payment, together with the £310 paid out on March 1, 1943, will bring the capital distribution which it has so far been possible to make to £2.362 per £100 of stock. The £1,000,000 now received does not denote any settlement of the cases in dispute between the Secretary of State and the company which were brought to the notice of stockholders in the

**CRANKSHAFT** Turning Lathe required. Gardner or similar. 30 in. diameter through Headstock Spindle. Please send particulars, Box No. 214, *Railway Gazette*, 33, Tothill Street, London, S.W.1.

**SLIDING** and Surfacing Lathe required, swing over saddle 30 in., minimum between centres 48 in. Auto feed. Please send particulars, Box No. 214, *Railway Gazette*, 33, Tothill Street, London, S.W.1.

liquidators' circular dated January 11, 1944. Warrants will be sent out on or about May 1.

**Moss Gear Co. Ltd.**—Net profit for the year ended August 31, 1943, after making all provisions, including taxation and tax deducted from dividends, was £35,156. Add amount brought forward (£68,950, less £35,000 transfer to income tax reserve as provision for future taxes) £33,950, stock reserve not now required £7,500, and profit on realisation of investments £6,485, making £83,090. Two interim dividends have been paid on the ordinary shares making 20 per cent. for the year, less tax (same), and a cash bonus of 2½ per cent., less tax (5 per cent., less tax), carrying forward £56,090.

**Madras & Southern Mahratta Railway Co. Ltd.**—At an extraordinary general meeting of this company, duly convened, and held on March 31, the following special resolution was duly passed:—"That the company be wound up voluntarily and Sir Charles Lane Magniac and Sir Charles Banks Cunningham, both of 'Guildcroft,' Epsom Road, Guildford, Surrey, be appointed liquidators for the purpose of such winding-up." Creditors of the company are required, on or before June 30, 1944, to send their names, addresses, and particulars of their debts and claims to the liquidators.

**P. & W. MacLellan Limited.**—As shown by the report for the year 1943 the profit, after provision for taxation and contingencies was £57,560, and the balance brought forward was £8,075, making £65,635. After deducting £2,500 for directors' fees and £6,561 for debenture interest, transferring £10,000 (£7,500) to depreciation fund, £8,000 (£3,000) provision for deferred repairs, and £10,000 (£5,000) transfer to reserve fund, there is a balance of £28,574 (£28,595). The directors recom-

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mend a dividend of 6 per cent. per annum on the ordinary stock (same), carrying forward £8,054.

## Contracts and Tenders

Below is given a list of orders placed recently by the Egyptian State Railways:—

Gwynnes Pumps Limited: Pumps.  
Ransome & Marles Bearing Co. Ltd.: Plummer blocks.  
Worthington-Simpson Limited: Inner casing.  
Brown Bayley's Steel Works Limited: Helical springs.  
British Insulated Cables Limited: Copper cable.  
Buck & Hickman Limited: Hack new frames.  
A. S. Young & Co. Ltd.: Blow pipe.  
Newton Bros. (Derby) Ltd.: Rotary transformers and spares.  
Evershed & Vignolles Limited: Precision wireless measuring apparatus.  
Morgan Crucible Co. Ltd.: Carbon brushes.  
Edison Swan Electric Co. Ltd.: Rectifier valves and lamps.  
British Thomson-Houston Co. Ltd.: Carbon brushes.  
National Gas & Oil Engine Co. Ltd.: Filter packs.  
Clyde Crane & Engineering Company: Pinions.  
Callender's Cable & Construction Co. Ltd.: Insulating materials.  
International General Electric Co. of New York Ltd.: Commuter field-coils.  
Lovick Johnson Company: Wire nozzles.  
Chloride Electrical Storage Co. Ltd.: Cells.  
Specialoid Limited: Piston assemblies.  
North British Locomotive Co. Ltd.: Connecting rods.  
George Salter & Co. Ltd.: Ratchet and tongs.  
Siemens Bros. & Co. Ltd.: Insulating materials.  
Bullers Limited: Insulating materials.  
W. T. Henley's Telegraph Works Co. Ltd.: Insulating materials.  
Midland Electric Manufacturing Co. Ltd.: Fuse carriers.  
Gross, Sherwood & Heald Limited: Varnish.



Left: The interior of the Slough Railway Employees' Social & Dining Club opened recently. Right: Mr. S. G. Hearn, Operating Assistant to the Superintendent of the Line, G.W.R., performing the opening ceremony

## Railway Stock Market

With sentiment still dominated by the widespread tendency to await war developments, stock markets have remained inactive, although the general undertone has been good, assisted by the continued firmness of British Funds. Industrial shares were not without individual features of strength, although the forthcoming Budget was inclined to be a restraining influence. Yields on the majority of industrial shares are now very moderate on the basis of current dividends. This is due in a large measure to the tendency for market values to attempt to discount the future a long way ahead, and rightly or wrongly the prevailing assumption is that a wide range of industrial shares will offer prospects of higher dividends after the war. Much may depend on factors which it is difficult to assess at this stage. In particular, the scope for a return to pre-1940 dividend levels will turn on whether E.P.T. is abolished or considerably reduced after the war. With current yields on industrials reduced to small proportions, it would seem that home railway junior stocks, yielding as much as 8 per cent. or over, will tend to come in for more attention. Prices have shown further small improvement on balance, but because of inactive markets, demand has been on a limited scale.

The fact that home railway stocks continue to be valued on a high-yield basis would appear to indicate a prevailing view that after the war the railways are

unlikely to be able to pay dividends at around the rates ruling under the fixed-rental agreement. The latter, however, is to remain in force until at least one year after the termination of hostilities, and it seems not unlikely it will continue until there is final agreement on post-war transport problems. Moreover, if the railways receive fair treatment in this connection they should be able to earn dividends at least equal to those now ruling, assuming that after the war there is a large measure of success in securing full employment of the country's resources. All points considered, it would seem that either home railway junior stocks are considerably undervalued at current levels, or that industrial shares generally are over-valued.

Where changed, prior charges of the main-line railways have again shown further fractional gains, as have various of the senior preference stocks; and yield considerations seem likely to increase investment demand. Yield on Great Western 4 per cent. debentures is still 3½ per cent., that on Southern 4 per cent. debentures not far short of 3½ per cent., while L.N.E.R. 3 per cent. debentures return over this rate. Elsewhere, L.N.E.R. first and second guaranteed stocks give generous yields when judged in relation to their investment merits, as does L.M.S.R. guaranteed stock and also the first preference. London Transport "A" and "B" were again inclined to strengthen in price,

and demand continued for the "C" stock on the post-war dividend outlook. Sentiment as to the latter stock has also tended to benefit from the view that whatever the final scheme of post-war transport organisation and control, there is unlikely to be any change in the capital structure of London Transport.

Great Western ordinary at 60 showed a fractional gain as compared with a week ago. Moreover, the 4 per cent. debentures strengthened from 113 to 113½, and the 5 per cent. preference from 116½ to 117. Great Western guaranteed stock at 127 was also half-a-point better on balance. L.M.S.R. ordinary showed a small reaction, and was 30½, compared with 31 a week ago, although the senior preference further improved from 76½ to 77½ and the 1923 preference from 59½ to 59½. L.M.S.R. guaranteed, however, was unchanged at 101, although the 4 per cent. debentures strengthened from 105½ to 106. L.N.E.R. second preference at 32½ was the same as a week ago, but the first preference moved better at 60. Southern deferred eased from 24½ to 24½; the preferred further rose from 76½ to 77, and the 5 per cent. preference moved up to 115½ and the guaranteed stock to 127. London Transport "C" further strengthened from 71½ to 72.

Only small movements were shown in Argentine railway stocks, and in most cases there were fractional declines on balance. Elsewhere, however, United of Havana 1906 debentures rose further to 29½. Canadian Pacific eased from 15½ to 15½.

### Traffic Table and Stock Prices of Overseas and Foreign Railways

Railways	Miles open	Week ending	Traffic for week		No. of Weeks	Aggregate traffic to date			Shares or stock	Prices						
			Total this year	Inc. or dec. compared with 1942/3		Totals		Increase or decrease		Highest 1943	Lowest 1943	April 18, 1944	Yield % (See Notes)			
						1943/4	1942/3									
South & Central America	Antofagasta (Chile) & Bolivia	834	9.4.44	22,900	—	2,420	15	£ 417,820	£ 397,230	+	£ 20,590	Ord. Sk.	15½	10	11½	Nil
	Argentine North Eastern	753	8.4.44	15,048	+	2,334	41	584,628	499,734	+	84,894	Ord. Sk.	7½	5	5	Nil
	Bolivar	174	Mar., 1944	6,006	—	514	13	15,953	16,331	—	378	6 p.c. Deb.	22½	18	17½	Nil
	Brazil	—	—	—	—	—	—	—	—	—	—	Bonds	23½	19	17	Nil
	Buenos Ayres & Pacific	2,807	8.4.44	129,600	+	12,600	41	4,288,920	4,063,740	+	225,180	Ord. Sk.	8½	5½	6½	Nil
	Buenos Ayres Great Southern	5,080	8.4.44	162,960	—	11,820	41	7,344,360	6,634,740	+	709,620	Ord. Sk.	17½	9½	12½	Nil
	Buenos Ayres Western	1,930	8.4.44	53,820	—	2,520	41	2,272,680	2,205,160	+	67,620	Ord. Sk.	16	9½	11	Nil
	Central Argentine	3,700	8.4.44	158,010	+	20,610	41	6,118,422	5,438,979	+	679,443	Ord. Sk.	10½	6½	8½	Nil
	Do.	—	—	—	—	—	—	—	—	—	—	Dfd.	4½	3	4	Nil
	Cent. Uruguay of M. Video	972	8.4.44	28,561	—	6,185	41	1,376,257	1,151,579	+	224,678	Ord. Sk.	7½	4½	5	Nil
	Costa Rica	262	Feb., 1944	22,805	+	4,909	33	175,664	114,452	+	61,212	Ord. Sk.	16	12½	15	Nil
	Dorada	70	Feb., 1944	21,672	+	2,272	9	47,692	39,990	+	7,702	1 Mt. Db.	96	92	93½	6½
	Entre Rios	808	8.4.44	18,006	—	1,164	41	800,082	725,628	+	74,454	Ord. Sh.	9	5½	6	Nil
	Great Western of Brazil	1,030	8.4.44	18,100	+	3,100	15	333,100	241,000	+	92,100	Ord. Sh.	59½	24½	27½	Nil
	International of Cl. Amer.	794	Feb., 1944	\$819,809	+	\$163,288	8	\$1,534,088	\$1,312,320	+	221,768	1st Pref.	2½	1½	—	Nil
	Interoceanic of Mexico	—	—	—	—	—	—	—	—	—	—	5 p.c. Deb.	90	80	83½	Nil
	La Guaira & Caracas	22½	Mar., 1944	7,704	—	1,656	13	21,956	27,435	—	5,479	Ord. Sk.	7½	4	5	Nil
	Leopoldina	1,918	8.4.44	50,421	+	16,509	15	629,027	462,597	+	166,430	Ord. Sk.	1½	—	—	Nil
	Mexican	483	7.4.44	ps. 363,800	+	ps. 42,800	15	ps. 5,562,100	ps. 4,793,900	+	ps. 768,200	Ord. Sk.	1½	—	—	Nil
Midland Uruguay	319	Feb., 1944	16,340	—	1,701	34	136,487	116,703	+	19,787	Ord. Sh.	—	71½	70	Nil	
Nitrate	382	31.3.44	9,380	+	1,606	13	53,480	35,378	+	18,102	Ord. Sh.	83½	75	71½	70	Nil
Paraguay Central	274	7.4.44	\$52,778	+	\$3,458	15	\$2,060,049	\$1,608,060	+	\$451,989	Pr. Li. Sk.	71	57	49	4½	
Peruvian Corporation	1,059	Mar., 1944	117,202	+	26,463	39	964,686	757,581	+	207,105	Pref.	17½	10½	10	Nil	
Salvador	100	Feb., 1944	c 188,000	+	c 25,000	34	c 984,000	c 772,000	+	c 212,000	Ord. Sk.	71	57	49	4½	
San Paulo	153½	—	—	—	—	—	—	—	—	—	Ord. Sh.	37½	20½	17½	Nil	
Taltal	160	Mar., 1944	4,745	+	310	39	50,015	41,346	+	8,669	Ord. Sh.	—	—	—	Nil	
United of Havana	1,301	8.4.44	82,419	+	10,999	41	2,243,684	2,046,911	+	196,773	Ord. Sk.	—	—	—	Nil	
Uruguay Northern	73	Feb., 1944	1,425	—	34	34	11,503	11,064	+	439	—	—	—	—	Nil	
Canada	Canadian Pacific	17,034	7.4.44	1,158,800	+	103,200	15	16,128,600	13,712,200	+	2,416,400	Ord. Sk.	18	13½	15	Nil
India	Baral Light	202	Feb., 1944	25,575	+	3,285	47	237,600	197,852	+	39,998	—	—	—	—	3½
	Bengal-Nagpur	3,267	Feb., 1944	974,475	+	23,250	7	11,369,400	10,049,850	+	1,319,550	Ord. Sk.	104½	101½	106½	—
	Madras & Southern Mahratta	2,367	Feb., 1944	285,150	+	42,472	44	9,380,910	7,961,306	+	1,419,604	—	—	—	—	—
	South Indian	2,349	20.12.43	192,410	+	24,449	37	5,321,558	4,562,445	+	750,113	—	—	—	—	—
Various	Egyptian Delta	—	20.2.44	19,780	+	5,522	48	543,990	418,153	+	125,837	Pr. Sh.	6½	2½	6	Nil
	Manila	—	—	—	—	—	—	—	—	—	B. Deb.	45	32	40	Nil	
	Midland of W. Australia	277	Feb., 1944	21,583	—	6,758	33	245,504	252,708	—	7,204	Inc. Deb.	101	93	100½	6
	Nigerian	1,900	29.1.44	99,395	—	18,357	30	3,418,855	2,944,340	—	474,515	—	—	—	—	—
	South Africa	13,291	5.2.44	906,790	—	63,914	45	37,522,295	34,935,498	+	2,586,797	—	—	—	—	—
	Victoria	4,774	Nov., 1943	1,335,935	—	64,116	—	—	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current price and are within a fraction of ½%. Argentine traffic is given in sterling calculated @ 16½ pesos to the £

† Receipts are calculated @ 1s. 6d. to the rupee

§ ex dividend